

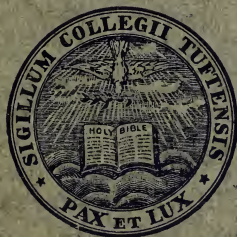
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Tufts College




T U F T S
C O L L E G E
C A T A L O G U E

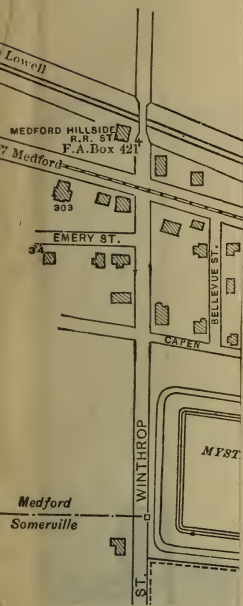
1908-1909



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The address of the Medical and Dental Schools is 416-430 HUNTINGTON AVENUE, BOSTON, MASS.



College Buildings

- 1 WEST HALL (dormitory)
- 2 OLD LIBRARY BUILDING
- 3 EAST HALL (dormitory)
- 4 CURTIS HALL (post-office, dining hall, and dormitory)
- 5 CHEMICAL LABORATORY
- 6 DEAN HALL (dormitory)
- 7 GODDARD GYMNASIUM
- 8 BARNUM MUSEUM (public museum, biological laboratory, and class rooms)
- 9 BALLOU HALL (main offices and class rooms)
- 10 GODDARD CHAPEL
- 11 PAIGE HALL (Theological School dormitory)
- 12 MINER HALL (Theological School class rooms)
- 13 ROBINSON HALL (Engineering laboratories and class rooms)
- 14 POWER STATION AND FORGE SHOP
- 15 BROMFIELD-PEARSON BUILDING (Engineering shops and class rooms)
- 16 METCALF HALL (dormitory for women)
- 17 START HOUSE (dormitory for women)
- 18 EATON MEMORIAL LIBRARY
- 19 WOMEN'S GYMNASIUM

Residences

- | | |
|-----|--------------------|
| | BOSTON AVENUE |
| 303 | Mr. H. T. Brown |
| | PROFESSORS ROW |
| 8 | President Hamilton |
| 14 | Prof. Anthony |
| 20 | " Lewis |
| 28 | " Schneider |
| 38 | " Durkee |
| 48 | Prof. Cushman |
| 80 | Zeta Psi House |
| 92 | Prof. Fay |
| 98 | " Bray |

A MAP OF THE GROUNDS OF TUFTS COLLEGE

Scale
0 200 400 600 Feet
1/4 mile

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20 " Lewis
28 " Schneider
38 " Durkee
48 Prof. Cushman
80 Zeta Psi House
92 Prof. Fay
98 " Bray
106 " Tousey
114 " Knight
124 " Hooper
128 " Kingsley
134 " Dolbeer

- SAWYER AVENUE
13 Delta Upsilon House
14 Prof. Wade
29 Prof. Ransom
37 Prof. H. G. Chase
45 Prof. Earle

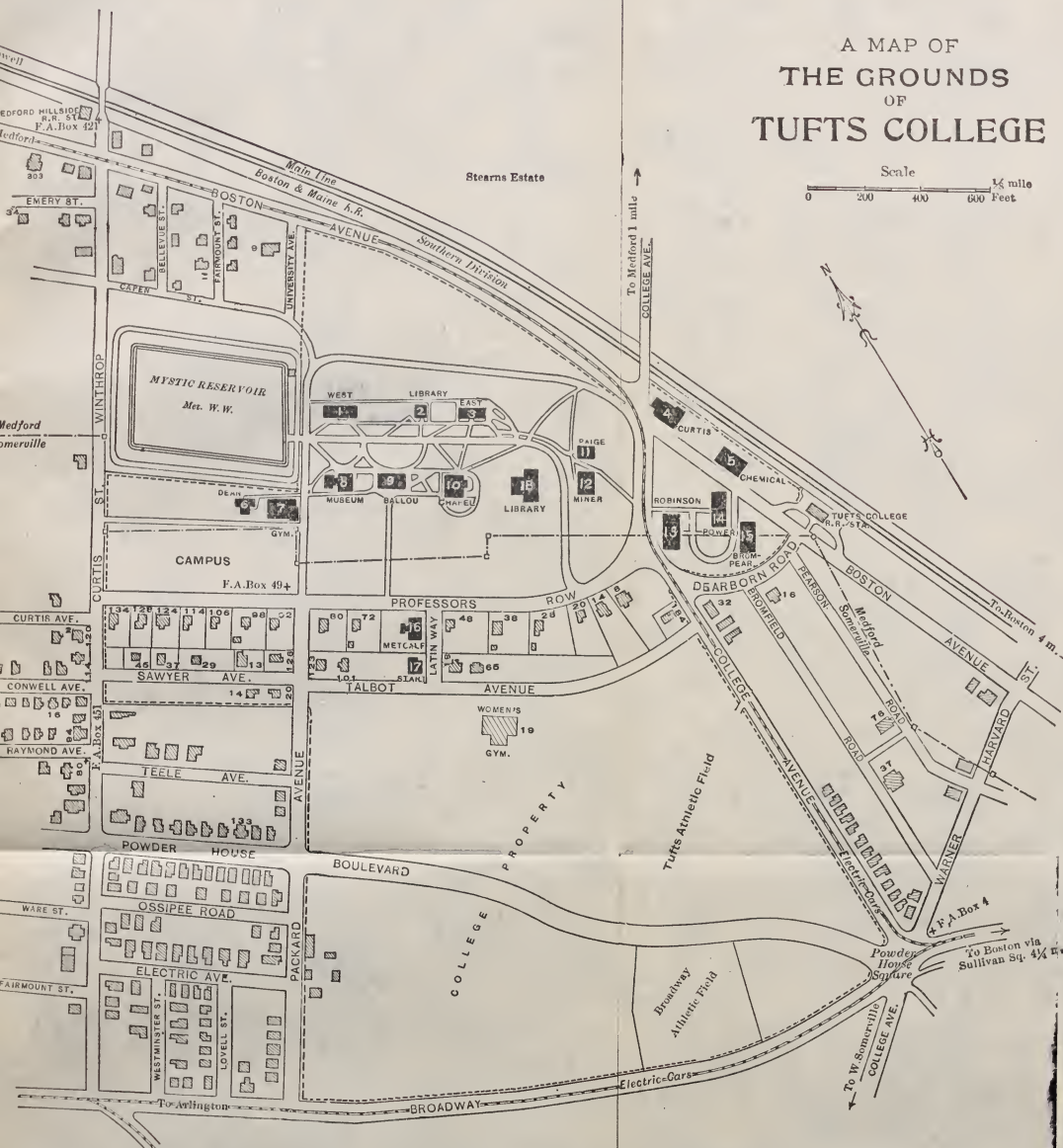
- POWDER-HOUSE BOULEVARD
133 Prof. Rockwell
TALBOT AVENUE
101 Mr. Munro
65 Prof. Wren

- DEARBORN ROAD
16 Prof. Lambert
32 " Stewart
CURTIS STREET
80 Prof. Maulsby
94 Alpha Tau Omega House
114 Prof. Harmon
120 Mr. Bruce

- UNIVERSITY AVENUE
9 Sigma Tau Alpha House
PACKARD AVENUE
120 Prof. Leonard
123 Theta Delta Chi House
126 Prof. Denison

- LATIN WAY
18 Delta Tau Delta House
COLLEGE AVENUE
184 Prof. Bolles
PEARSON ROAD
76 Mr. Tucker
BROMFIELD ROAD
31 Mr. Morley

Post-office address: Tufts College, Mass. Rail-road Station: Tufts College, on Southern Division of Boston and Maine Railroad. Electric cars from Boston via Sullivan Square. Freight Station: North Somerville, Mass.



To

2



NER

by N. L. Stebbins



TUFTS COLLEGE R. R. STA.

BROMFIELD-PEARSON

ROBINSON
POWER HOUSE

CHEM. LAB.

MINER

PAIGE

CHAPEL
CURTIS

BALLOU

EAST OLD LIBRARY WEST

Photo. by N. L. Stedbins

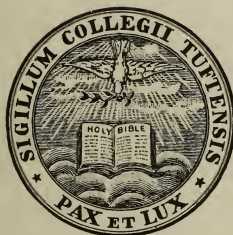
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New Series, Vol. IX, No. 2

Withdrawn

CATALOGUE

OF

TUFTS COLLEGE



1908—1909

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Entered at the Post-Office at Tufts College, Mass.,
as Second-Class Matter

THE TUFTS COLLEGE PRESS

Calendar — 1909

JANUARY							MAY							SEPTEMBER						
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Tufts College, about four miles from Boston, is accessible by rail and by electric cars. The railway station, "Tufts College," is on the Southern Division of the Boston and Maine Railroad; but goods sent by freight go to North Somerville, Mass., and should be so addressed. The post-office address is "Tufts College, Mass."

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Calendar

1908

- DEC. 21. Christmas recess begins in the College of Letters and the Engineering Department, Wednesday, 12.45 P.M.
DEC. 23. Christmas recess begins, Medical and Dental Schools
DEC. 28. Christmas recess ends in the Medical and Dental Schools. Exercises are resumed at 9 A.M.

1909

- JAN. 4. Christmas recess ends in the College of Letters and the Engineering Department, Monday, at 2 P.M.
JAN. 30, FEB. 1, 2, 3. Mid-year examinations, in the College of Letters and in the Department of Engineering
FEB. 6. End of first half-year, Saturday
FEB. 8. Second half-year begins, Monday. Registration of all students in the College of Letters, the Engineering Department, the Crane Theological School, and the Graduate Department.
FEB. 9. Regular exercises begin in the College of Letters, the Engineering Department, the Crane Theological School, and the Graduate Department, Tuesday, 8.30 A.M.
FEB. 22. Washington's Birthday, Monday. College exercises are suspended
APR. 4-10. Spring recess in the Medical and Dental Schools
APR. 14. Spring recess in the College of Letters, the Engineering Department, the Crane Theological School, and the Graduate Department begins, Wednesday evening
APR. 21. Spring recess ends, Wednesday evening
MAY 14. Goddard Prize Reading in the College of Letters, Friday, 8 P.M.
MAY 31. Memorial Day, Monday. College exercises are suspended
JUNE 7, 8, 9, 10. Final examinations in the College of Letters, and in the Department of Engineering
JUNE 7. Entrance Examinations at the Medical and Dental Schools, Monday, 10 A.M.
JUNE 11. Class Day, Friday
JUNE 13. Baccalaureate Sermon, Sunday, 3.30 P.M.
JUNE 16. Fifty-third Annual Commencement, Wednesday

First Examinations for Admission to the College of Letters, the Engineering Department, and the Theological School

- JUNE 17. Algebra, 9 to 10.30 A.M.; English, 10.30 A.M. to 12.30 P.M.; Plane Geometry, 2 to 4 P.M.; Physics, 4 to 5 P.M.; Drawing, 4 to 6 P.M.

- JUNE 18. Elementary and Advanced Latin, 9 to 12 A.M.; Solid Geometry, 9 to 11 A.M.; Natural History (two subjects), 11 A.M. to 1 P.M.; History, 2 to 4 P.M.; Chemistry, 4 to 5 P.M.
- JUNE 19. Elementary and Advanced French, 9 to 11 A.M.; Elementary and Advanced German, 11 A.M. to 12.30 P.M.; Elementary and Advanced Greek, Advanced Algebra and Trigonometry, 2 to 5 P.M.

Summer Vacation, Thirteen Weeks

Second Examination for Admission to the College of Letters, the Engineering Department, and the Theological School

- SEPT. 11. Elementary and Advanced French, 9 to 11 A.M.; Elementary and Advanced German, 11 A.M. to 12.30 P.M.; Elementary and Advanced Greek, Advanced Algebra and Trigonometry, 2 to 5 P.M.
- SEPT. 13. Algebra, 9 to 10.30 A.M.; English, 10.30 A.M. to 12.30 P.M. Plane Geometry, 2 to 4 P.M.; Physics, 4 to 5 P.M.; Drawing, 4 to 6 P.M.
- SEPT. 14. Elementary and Advanced Latin, 9 to 12 A.M.; Solid Geometry, 9 to 11 A.M.; Natural History (two subjects), 11 A.M. to 1 P.M.; History, 2 to 4 P.M.; Chemistry, 4 to 5 P.M.
- SEPT. 13. Fall examinations for the removal of conditions, in the Medical and Dental Schools, begin, 10 A.M.
- SEPT. 20. Entrance examinations at the Medical and Dental Schools, Monday, 10 A.M.
-
- SEPT. 16. College year begins, Thursday morning
Registration of all students in the College of Letters, the Engineering Department, the Crane Theological School, and the Graduate Department
- SEPT. 17. All classes meet for announced periods, Friday
- SEPT. 18. Regular College exercises begin, Saturday
- SEPT. 26. Russell Lecture, Sunday, 3.30 P.M.
- SEPT. 29. Lectures begin in Medical and Dental Schools, Wednesday 3 P.M.
- NOV. 17. Announcement of Academic Honors, 12 M., Wednesday
- NOV. 24. Thanksgiving recess begins, Wednesday, 12.45 P.M.
- NOV. 28. Thanksgiving recess ends, Sunday evening
- DEC. 22. Christmas recess begins, Wednesday, 12.45 P.M.
- JAN. 3. Christmas recess ends, Monday, 2 P.M.

1910

- JAN. 29, 31, FEB. 1, 2. Mid-year examinations in the College of Letters, the Engineering Department, and the Crane Theological School
- FEB. 5. End of the first half-year, Saturday
- FEB. 7. Second half-year begins, Monday.

Historical Sketch

Tufts College was established under a charter granted on the twenty-first day of April, 1852, by the General Court of Massachusetts. Under this charter, as later amended, the College is empowered "to confer such degrees as are usually conferred by colleges in New England." Its organization now comprises the College of Letters, the Department of Engineering, the Graduate Department, the Crane Theological School, the Medical School, and the Dental School. The College of Letters prepares for the degrees of Bachelor of Arts and Bachelor of Science. Work in the Department of Engineering leads to the degree of Bachelor of Science in Engineering. The Graduate Department offers the degrees of Master of Arts, Master of Science, Civil, Electrical, and Mechanical Engineer. The course in the Theological School leads to the degree of Bachelor of Sacred Theology, that in the Medical School to the degree of Doctor of Medicine, and that in the Dental School to the degree of Doctor of Dental Medicine.

The Foundation.—The movement resulting in the founding of the College was set on foot in 1847, through the efforts of the Rev. Thomas J. Sawyer, of New York, the Rev. Hosea Ballou, 2d, of Medford, and the Rev. Thomas Whittemore, of Cambridgeport. After much consideration, the work of raising a fund of one hundred thousand dollars for a foundation was undertaken, under the direction of the Rev. Otis A. Skinner, of Boston. About sixty thousand dollars was obtained in money. Sylvanus Packard gave his bond for twenty thousand dollars additional, and Charles Tufts gave twenty acres of land on Walnut Hill, embracing the present site of the College. Mr. Tufts announced his intention of increasing his gift of land to more than one hundred acres, and thus became the largest benefactor of the young institution, which accordingly received his name. Mr. Packard was a Boston merchant, who from the beginning made the College a peculiar care, and bequeathed to

it his entire fortune. Among other benefactors who may be numbered among the founders of the College were Oliver Dean, who gave it ninety thousand dollars, and Thomas A. Goddard, whose gifts, though unobtrusive, were constant. Mrs. Goddard continued the generosity of her husband, and at her death made a substantial bequest to the College. Dr. William J. Walker also made gifts and bequests amounting to nearly three hundred thousand dollars.

While the College owed its beginning to the effort and the support of members of the Universalist denomination, it was provided by the Legislature in the charter that

“No instructor in said college shall ever be required by the Trustees to profess any particular religious opinions as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said college, on account of the religious opinions he may entertain.”

This provision has always been interpreted by the Trustees and Faculty in its broadest sense. The non-sectarian character of the work of the College is amply shown by the membership of its Faculty and student body. The truth, and not the maintenance of any religious or political doctrine, has been the aim of its research and its instruction.

The College of Letters.—The first Faculty meeting was held October 9, 1854, when there were in College students forming the Sophomore and the Freshman class. The only building at that time was the main College Building, now known as Ballou Hall. The next building to be erected was a small brick dormitory, now the Library building. The large dormitory known as East Hall was the next addition to the group, and in 1872 West Hall was opened to students. It was ten years before building operations were renewed by the College. The original Faculty numbered five. The first class, of three members, was graduated in 1857.

At the outset, provision was made for a course of study leading to the degree of Bachelor of Arts. The only feature of its work peculiar to Tufts College in these years of its beginning

was the attention given to the study of history. The first President of the College, the Rev. Hosea Ballou, 2d, D.D., was likewise Professor of History and of Intellectual Philosophy, and gave instruction in history remarkable alike for its quantity and quality, at a time when the study was hardly recognized in American colleges.

Dr. Ballou was succeeded in the presidency by the Rev. Alonzo Ames Miner, D.D., LL.D., who was inaugurated in 1862, and continued in office until 1875, resigning in February of that year. Dr. Miner's incumbency was marked by large financial additions to the College, and by the further growth of a broad and scholarly spirit.

In March, 1875, the Rev. Elmer Hewitt Capen, D.D., was elected to the presidency of the College, vacated by the resignation of President Miner, and he was inaugurated on the second day of June. Dr. Capen's administration, which was characterized by the expansion of the College to university proportions, and was marked by the material and intellectual advance of all departments, was terminated by his death, March 22, 1905.

Rev. F. W. Hamilton, D.D., LL.D., was appointed acting president in 1905, and was inaugurated as president, June 19, 1906.

The Engineering courses were begun in 1869 with a department of Civil Engineering. The great development of electrical science was promptly recognized, and a department of Electrical Engineering was opened to students in 1882, a professorship in the subject being established in 1890. This side of the College work had rapid development: in 1894 the field was broadened by the addition of a course in Mechanical Engineering, and in 1898 by one in Chemical Engineering. In these courses effort has always been made to give thorough practical training. The will of the late Henry B. Pearson, founding the Bromfield-Pearson School, and putting it into the hands of the Trustees of Tufts College to administer, provided a thoroughly-equipped building for technical instruction, of great value in drawing, pattern-making, and in machine and

forge work. The Bromfield-Pearson building was completed in the fall of 1894. Robinson Hall, completed in 1900, gives to the technical courses a modern building with every facility for their work. It was given in memory of the late Charles Robinson, LL. D., sometime President of the Trustees, by his heirs.

In 1881 the late Phineas T. Barnum gave fifty-five thousand dollars for the establishment of the Barnum Museum of Natural History, and by his last will he bequeathed forty thousand dollars more. The main Museum building was completed in 1884. The west wing, containing the new biological laboratories, was erected in 1894. The years 1882 and 1883 saw the completion of Goddard Chapel, given by Mrs. Mary T. Goddard as a memorial of her husband, the first treasurer of the College. Goddard Gymnasium, a gift from the same source, was also completed in 1883. The gymnasium has been enlarged and transformed into what is practically a new building. Dean Hall was erected in 1887 from funds bequeathed by the late Oliver Dean. In the College year 1894-95 two new buildings were opened, in addition to the west wing of the Barnum Museum. These were the Chemical building and Curtis Hall, containing students' rooms, a dining-hall, and the post-office.

The gift of one hundred thousand dollars from Mr. Andrew Carnegie secured the erection of an adequate library building, called the Eaton Memorial Library, which was begun in 1905, and put into active service in 1908.

The development of the College in its internal life has been the notable fact of recent years. In 1866 the degree of Bachelor of Philosophy was offered to students who should pursue a prescribed course of two years, the object being to provide for those who had been prepared only in English subjects. This course was maintained until 1875, when it was changed to a course of four years. The requirements for admission were then made the same as for the regular course, except that Greek as a condition of entrance was omitted, and an amount of work in French or German, considerably less than its equivalent, was

substituted. The degree of Bachelor of Philosophy has more and more fallen into disuse, in favor of Bachelor of Arts. In 1891 a new course of study, leading to the degree of Bachelor of Arts, was offered, with an entrance requirement believed to be fully the equivalent of the Greek, in two modern languages. This was one important step taken by the College toward the broadening of its opportunities, but it soon proved to be insufficient. There had been a steady growth for many years in the amount of work done, and in the number of departments of learning represented. Two new departments had been instituted in 1892, in response to the tendencies of educational development,—those of Biology and History. Departments of Music and Philosophy have since been added, the work in Political Science has been broadened, and provision made for the study of Public Law. In the fall of 1893 it seemed possible to take another step and to put into operation the present plan of work, which is believed to be an approach to a rational co-ordination and connection of the college and university systems. The principle which governed this adjustment of the College curriculum has been applied to the entrance requirements.

There were opened in 1895 courses of four years each in Biology, Chemistry, General Science, and Medical Preparatory work, leading to the degree of Bachelor of Science, and accessible to graduates of all good high schools. The course in Biology was withdrawn in 1905. Bachelors of Science may, if they desire, go on to the attainment of the degree of Bachelor of Arts.

In response to a pressing demand the college was, in the Summer of 1892, opened to women on the same terms as to men. In the fall of 1894 there was provided, for the accommodation of women students, Metcalf Hall, the gift of Albert Metcalf, of Newton. The Start House also offers home-like rooms for women students.

The Professional Schools.—The will of Mr. Packard re-

quired that a professor of Christian Theology should be maintained from the income of funds bequeathed by him. The Rev. Thomas J. Sawyer, D.D., was elected Packard Professor in 1869. This was the beginning of the Theological School. In 1882 the school had developed so that its Faculty received a definite organization, and Dr. Sawyer became the first Dean, retaining the office until his retirement as Packard Professor Emeritus in 1892. He was succeeded by the present Dean, Rev. Dr. Charles H. Leonard. From the erection of West Hall until the completion of the separate buildings of the school, the western side of West Hall was occupied by the Divinity School. In 1892, by the gift of ex-President Miner, the school was provided with Miner Hall, containing the library, class rooms, chapel, and reception room; and at the same time, largely through the efforts of the Dean, the money was obtained to build Paige Hall, a dormitory for students of the Theological School.

In 1903 a five-year course was offered to students of divinity, combining subjects required for a proper professional equipment with studies that look toward liberal culture. This course is now arranged to cover six years. At its successful completion the degrees A.B. and B.D. are both awarded. There is also a four-year course, leading to B. D.

In 1906 the name of the Divinity School was changed to the Crane Theological School, in recognition of a gift of one hundred thousand dollars from the estate of the late Thomas Crane of New York, whose son, Albert Crane, '63, thus carried out the expressed purpose of his father.

In 1893 Tufts College met what seemed to be a need of the community by opening the Tufts Medical School. The growth of the school in efficiency and numbers justified its institution. The course is four years in length, and, as in other departments of the College, women stand upon the same terms as men.

The Medical School found its complement in the Tufts Dental School, organized in 1899 by the absorption of the Boston Dental College, which was incorporated in 1868, and has a

numerous body of alumni. The equipment, funds, and good will of this school passed to Tufts College.

Administration.—The control of the College is vested by the charter in a self-perpetuating body of Trustees, not to exceed thirty in number. As the College has matured the number of its alumni upon the Board of Trustees has steadily increased. To give the Alumni as a whole a direct representation in the administration, a Board of Overseers was instituted, which continued from 1899 till 1907. At this time an amendment to the college charter was passed by the Massachusetts legislature, permitting the election of a certain proportion of Trustees from and by the alumni themselves.

THE COLLEGE CHARTER

SECTION 1. B. B. Mussey, Timothy Cotting, Richard Frothingham, Jr., their associates and successors, are hereby constituted a body corporate by the name of the Trustees of Tufts College, in Medford, and they and their successors, and such as shall be duly elected members of said corporation, shall be and remain a body corporate by that name forever. And for the orderly conducting of the business of said corporation, the said Trustees shall have power and authority, from time to time, as occasion may require, to elect a President, Vice-President, Secretary and Treasurer, and such other officers of said corporation as may be found necessary, and to declare the duties and tenures of their respective offices; and also to remove any Trustee from the same corporation, when in their judgment he shall be rendered incapable, by age or otherwise, of discharging the duties of his office, or shall neglect or refuse to perform the same; and also, from time to time, to elect new members of the said corporation; provided, nevertheless, that the number of members shall never be greater than thirty.

SEC. 2. The said corporation shall have full power and authority to determine at what times and places their meetings shall be holden, and the manner of notifying the Trustees to convene at such meetings, and also, from time to time, to elect a President of said College, and such professors, tutors, instructors, and other officers of the said College as they shall judge most for the interest thereof, and to determine the duties, salaries, emoluments, responsibilities, and tenures of their several offices. And the said corporation are further empowered to purchase or erect, and keep in repair, such houses and other buildings as they shall judge necessary for the said College; and also to make and ordain, as occasion may require, reasonable rules, orders, and by-laws, not repugnant to the Constitution

and Laws of this Commonwealth, with reasonable penalties, for the good government of the said College, and for the regulation of their own body; and also to determine and regulate the course of instruction in said College, and to confer such degrees as are usually conferred by colleges in New England; provided, nevertheless, that no corporate business shall be transacted at any meeting unless one-third, at least, of the Trustees are present.

SEC. 3. The said corporation may have a common seal, which they may alter or renew at their pleasure, and all deeds sealed with the seal of said corporation, and signed by their order, shall, when made in their corporate name, be considered in law as the deeds of said corporation; and said corporation may sue and be sued in all actions, real, personal, or mixed; and may prosecute the same to final judgment and execution by the name of the Trustees of Tufts College; and said corporation shall be capable of taking and holding in fee simple, or any less estate, by gift, grant, bequest, devise, or otherwise, any lands, tenements, or other estate, real or personal, provided, that the clear annual income of the same shall not exceed two hundred thousand dollars.*

SEC. 4. The clear rents and profits of all the estate, real and personal, of which the said corporation shall be seized and possessed, shall be appropriated to the endowment of said College in such manner as shall most effectually promote virtue and piety, and learning in such of the languages, and of the liberal and useful arts and sciences, as shall be recommended from time to time by the said corporation, they conforming to the will of any donor or donors in the application of any estate which may be given, devised, or bequeathed, for any particular object connected with the College.

SEC. 5. No instructor in said College shall ever be required by the Trustees to profess any particular religious opinions as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said College on account of the religious opinions he may entertain.

SEC. 6. The Legislature of this Commonwealth may grant any further powers to, or alter, limit, annul, or restrain any of the powers vested by this act in the said corporation, as shall be found necessary to promote the best interests of the said College, and more especially may appoint and establish overseers or visitors of the said College, with all necessary powers for the better aid, preservation, and government thereof.

SEC. 7. The granting of this Charter shall never be considered as any pledge on the part of the Government that pecuniary aid shall hereafter be granted to the College.

* The limitation as to income has been removed by statute.

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Requirements for Admission

Candidates for admission to the course leading to the degree of Bachelor of Arts, or that leading to Bachelor of Divinity, or any one of those leading to Bachelor of Science (in General Science, in Chemistry, in the Medical Preparatory Course, or in Civil, Mechanical, Electrical, or Chemical Engineering) must have received adequate preparation in certain subjects falling in two groups, known respectively as the Primary and the Secondary Group.

The Primary Group

Elementary English ;
*An Elementary Foreign Language, ancient or modern ;
Elementary History ;
Elementary Mathematics.

Candidates for admission to a course leading to any one of the degrees named above must show adequate preparation in all the subjects of the Primary Group, and in a certain part of the subjects of the Secondary Group, depending upon the degree in view.

The Secondary Group

ELEMENTARY

Greek, 4	Geology, 1 or 2
Latin, 6	Physiology, 1 or 2
French, 4	Mechanical Drawing, 1
German, 4	Freehand Drawing, 1
Chemistry, 1	Shop Work, 1
Physics, 1	Economics, 1
Botany, 1 or 2	Musical Appreciation, 1
Zoology, 1 or 2	Music (Harmony), 1 or 2

*Candidates for the degree of Bachelor of Science in General Science, in Chemistry, or in the Medical Preparatory Course, must present Elementary German.

Engineering students will find it an advantage to present both French and German. Preparatory work in Modern Languages above the elementary requirements may be counted toward the degree of B.S. in Engineering (see pages 44 and 45). But advanced credit for a language not continued in college, or credit for more than three years' work, will be given only on examination.

ADVANCED*

English, 2	Trigonometry, 1
Greek, 2	Solid Geometry, 1
Latin, 2	Chemistry, 1
French, 2	Physics, 1
German, 2	Counterpoint, 1
History, 2	Pianoforte, Voice, or Violin, 1
Algebra, 1	

Candidates for the degree of Bachelor of Arts or Bachelor of Divinity must submit, in addition to the four subjects of the Primary Group, a selection of subjects from the Secondary Group aggregating *fourteen* units, according to the valuation indicated above. Candidates for any one of the courses in Science, including those in Engineering, must submit from the Secondary Group subjects aggregating *six* units.

The following conditions are to be observed:—

1. The fourteen units for the course leading to A.B., or that leading to B.D., must include those representing one advanced ancient language.

2. No subject classified as “advanced” shall be offered without the corresponding elementary subject.†

3. The six units for any course in engineering must include that representing solid geometry.

Detailed information concerning the amount and character of the work demanded in preparation will be found on the following pages.

Detailed Statement of Requirements

Elementary English.

In accord with the votes of the Providence conference of New England colleges on entrance requirements in English, held January 26 and 27, 1906, the following principles and requirements will be the basis of examination at Tufts College in the years indicated.

*The credit for advanced subjects, as here given, is in addition to the credit for the corresponding elementary subjects.

†Thus Advanced Latin calls for preparation as well in Elementary Latin, and includes the credit for both,—8 points.

Preparation in English has two main objects: (1) command of correct and clear English, spoken and written; (2) power to read with intelligence and appreciation.

To secure the first end, training in grammar and the simpler principles of rhetoric, and the writing of frequent compositions, are essential. The candidate must be able to spell, capitalize, and punctuate correctly. He must show a practical knowledge of the essentials of English grammar, including ordinary grammatical terminology, inflections, syntax, the use of phrases and clauses; a thorough training in the construction of the sentence; and familiarity with the simpler principles of paragraph division and structure.

Beginning with 1910, the candidate for entrance will also be required to write upon one or more subjects of ordinary experience or knowledge, not taken from the prescribed books.

To secure the second end, the candidate is required to read the works named below under A and B. The list is intended to give the candidate the opportunity of reading, under intelligent direction, a number of important pieces of literature.

GROUP A

The candidate should read the works prescribed below with a view to understanding and enjoying them. He will be expected to show a reasonable degree of familiarity with their substance. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper.

*For Students Entering in 1909**

Shakespeare's *The Merchant of Venice* and *Julius Caesar*; Bunyan's *The Pilgrim's Progress* (Part I); the *Sir Roger de Coverley Papers* in the *Spectator*; Scott's *The Lady of the Lake* and *Ivanhoe*; Irving's *Sketch Book*; Macaulay's *Lays of Ancient Rome*; Tennyson's *Gareth and Lynette*, *Lancelot* and

* See the note at the bottom of the next page.

Elaine, and The Passing of Arthur; George Eliot's Silas Marner.

*For Students Entering in 1910 and 1911**

Shakespeare's The Merchant of Venice and Julius Caesar; the Sir Roger de Coverley Papers in the Spectator; Franklin's Autobiography; Scott's The Lady of the Lake and Ivanhoe; Hawthorne's The House of the Seven Gables; Macaulay's Lays of Ancient Rome; Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Dickens's A Tale of Two Cities.

*For Students Entering in 1912**

Shakespeare's As You Like It and Julius Cæsar; Franklin's Autobiography; Goldsmith's The Deserted Village; Dickens's A Tale of Two Cities; George Eliot's Silas Marner; Irving's Sketch Book; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Macaulay's Lays of Ancient Rome.

GROUP B

The candidate should read the books prescribed below with the view of acquiring such knowledge of their contents as will enable him to answer specific questions with accuracy and some detail. The examination is not designed, however, to require minute drill in difficulties of verbal expression, unimportant allusions, and technical details.

For Students Entering in 1909, 1910, and 1911

Shakespeare's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

* The books for the classes entering in 1909, 1910, 1911, and 1912, are selected from the lists adopted by the Conference on Uniform Entrance Requirements in English, at a meeting held in Newark, N. J., February 22, 1905, and February 22, 1908. Candidates may make other selections from that list, provided they give notice of their intention to present these books on or before the first day of February preceding the examination. The list will be furnished to secondary schools upon application to the Secretary of Tufts College.

For Students Entering in 1912

Shakespeare's *Macbeth*; Milton's *Comus*, *L'Allegro*, and *Il Penseroso*, or Tennyson's *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Burke's *Speech on Conciliation with America*, or Washington's *Farewell Address* and Webster's *First Bunker Hill Oration*; Macaulay's *Life of Johnson*, or Carlyle's *Essay on Burns*.

Advanced English.

Two units.

One of the following:—

1. A detailed study of a single period of English literature and of not fewer than three authors belonging to it.
2. Old English (Anglo-Saxon): chiefly simple prose and grammar.
3. Chaucer: the Prologue, the *Knights Tale*, and the *Nonne Preestes Tale*, including vocabulary, inflection, and prosody.

Adequate preparation for any one of the topics under advanced English requires the equivalent of at least three school periods a week for one year.

Elementary German.

Four units.

It is expected that the candidate will have studied the subject in a systematic course of at least four periods a week for two years, and that special care will have been given to pronunciation and to translating into clear, idiomatic English.

The examination will consist of two parts:—

(a) The translation into German of easy English sentences, to test the candidate's knowledge of the following subjects: the declension of articles, adjectives, pronouns, and nouns; the conjugation of verbs; the prepositions and cases which they govern; the simpler uses of modal auxiliaries; the elementary rules of syntax and word order.

(b) The translation at sight of ordinary German prose or verse. It is believed that the requisite facility may be acquired by the reading of from two to three hundred pages of standard prose and poetry, with preference given to the narrative style in contemporary authors.

[The following list is made up from works suitable for preparatory

reading in Elementary German: Wildenbruch, *Das edle Blut*; Heyse, *Niels mit der offenen Hand*; Arnold, *Fritz auf Ferien*; Gerstäcker, *Irrfahrten*; Storm, *In St. Jürgen*; Riehl, *Der Fluch der Schönheit*; Meyer, *Das Amulett*; Schiller, *Wilhelm Tell*; selections from Hatfield's *German Lyrics and Ballads*, or from Klenze's *Deutsche Gedichte*.]

Advanced German.

Two units.

It is expected that the candidate will have added to the work done in preparation for Elementary German a further course equivalent to four hours a week for a year. He should also acquire the ability to follow a recitation conducted in German, and to answer in that language questions asked by the instructor.

The examination will consist of two parts:—

(a) The translation into German of an easy passage of English prose. This will presuppose a thorough knowledge of the essentials of German syntax, and especially of the uses of the subjunctive and infinitive moods. Particular attention should be paid to the elements of word-formation, and the force of prefixes and suffixes. Proficiency may also be tested by questions on these topics.

(b) The translation at sight of standard German. It is believed that the requisite facility can be acquired by reading, in addition to the amount mentioned under "Elementary German," at least three hundred pages of classical and contemporary prose and dramatic verse.

[The following books are suitable in preparation for the Advanced examination: Eichendorff, *Aus dem Leben eines Taugenichts*; Keller, *Kleider machen Leute*; Hauff, *Lichtenstein*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Lessing, *Minna von Barnhelm*; Schiller, *Die Jungfrau von Orleans*, *Ballads*, *Die Geschichte des dreissigjährigen Krieges*; Fulda, *Der Talisman*.]

Elementary French.

Four units.

It is expected that the candidate will have studied the subject in a systematic course of at least four periods a week for two years, and that special care will have been given to pronunciation and to translating into clear, idiomatic English.

The examination will consist of two parts:—

(a) The translation into French of English sentences or a short passage of easy connected prose, to test the candidate's

familiarity with elementary grammar, especially the following subjects: the conjugation of the regular and the most frequently recurring irregular verbs; the forms and positions of personal pronouns: the uses of the other pronouns and of possessive, demonstrative, and interrogative adjectives; the inflection of nouns and adjectives for gender and number, except rare cases; the partitive construction.

(b) The translation at sight of ordinary French. It is believed that the requisite facility may be acquired by the reading of not less than four hundred pages of standard prose and verse; with preference given to narrative style of contemporary authors.

[The following list is made up from works suitable for preparatory reading in Elementary French: Daudet's easier short stories; Erckmann-Chatrian's stories; Verne's stories; Enault's *Le Chien du Capitaine*; Foa's *Contes biographiques* and *Le petit Robinson*; Labiche and Martin's *La poudre aux yeux* and *Le voyage de M. Perrichon*; Laurie's *Memoires d'un collégien*; Féval's *La fée des grèves*; Merimée's *Colomba*.]

Advanced French.

Two units.

It is expected that the candidate will have added to the work done in preparation for Elementary French a further course equivalent to four hours a week for a year. He should also acquire the ability to follow a recitation conducted in French, and to answer in that language questions asked by the instructor.

The examination will consist of two parts:—

(a) The translation into French of a passage of ordinary English prose, not only as a test of vocabulary, but of the candidate's familiarity with the essentials of French syntax, especially with the uses of modes and tenses, with word formation, and the common idiomatic phrases. Proficiency may also be tested by questions on these topics.

(b) The translation at sight of standard French. It is believed that the requisite facility can be acquired by reading, in addition to the amount mentioned under "Elementary French," at least six hundred pages of standard prose, selected from not less than five different authors.

[The following books are suitable in preparation for the Advanced ex-

amination : About's stories ; Augier and Sandeau's *Le gendre de M. Poirier* ; Béranger's poems ; Coppée's poems ; La Brète's *Mon oncle et mon curé* ; Daudet's *La Belle-Nivernaise* ; A. France's *Le crime de Sylvestre Bonnard* and *Le livre de mon ami* ; Sandeau's *Mademoiselle de la Seiglière* ; Thiers's *L'expédition de Bonaparte en Egypte* ; Vigny's *La canne de jonc*.]

Elementary Latin.

Six units

The examination will be adapted to the proficiency of those who have studied Latin in a systematic course of at least five periods a week for three years. It will consist of two parts:—

(a) The translation at sight of passages of Latin prose and verse. The passages must be rendered into simple and idiomatic English.

(b) A thorough examination on Cicero's Orations against Catiline, II, III, IV, directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms. This test will consist in part in writing simple Latin prose, involving words, constructions, and idioms found in the prescribed speeches.

The reading in preparation for Elementary Latin should include Caesar's Gallic War (Books I—IV), Cicero's four orations against Catiline, two thousand or more lines of Vergil, or of Ovid and Vergil. Equivalents will be accepted, but prose must not be substituted for verse.

Advanced Latin.

Two units.

The examination will be adapted to the proficiency of those who have studied Latin in a systematic course of at least five periods a week for four years. It will consist of two parts:—

(a) The translation at sight of passages of Latin prose and verse, with questions on the ordinary forms, constructions, and idioms, and on prosody. Simple and idiomatic English must be used in the translations.

(b) The translation into Latin prose of a passage of connected narrative.

The reading in preparation for advanced Latin should include Caesar's Gallic War (Books I—IV); Cicero, seven orations, or six if the Manilian Law be included; Vergil and Ovid, six to ten thousand lines, including the first six books of

the Aeneid. Equivalents will be accepted, but prose must not be substituted for verse.

A more extended knowledge of grammar will be expected than in the case of Elementary Latin. Practice in reading at sight, and a general training in the proper methods of reading, should form an important part of the preparation, from the very first.

Elementary Greek.

Four units.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course of at least five periods a week for two years. It will consist of two parts, which cannot be taken separately:—

(a) The translation at sight of passages of simple Attic prose.

(b) A thorough examination on Book II of Xenophon's Anabasis, directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms of the language.

Before taking the elementary examination the candidate should have read, in addition to the usual grammar work, at least four books of Xenophon's Anabasis, or an equivalent.

Advanced Greek.

Two units.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course of five exercises a week, extending through at least three school years. The two parts of the examination may be taken separately:—

(a) The translation at sight of an average passage of Homer; with questions on ordinary forms, constructions, and idioms, and on prosody.

(b) The translation into Attic prose of a passage of connected English narrative. The passage set for translation will be based on some portion of the Greek prose works usually read in preparation for college.

Before taking the examination in Advanced Greek the candidate should have completed at least four books of Xenophon's Anabasis, or their equivalent in Attic prose, and six books of Homer's Iliad, or their equivalent in the Odyssey. It is recommended that Greek composition accompany all

stages of the preparation, and that the pupil be practiced in reading Greek aloud from the beginning of his course.

Elementary History.

Either 1 and 2, or 3 and 4, of the following: —

1. The history of Greece to the death of Alexander, with due reference to Greek life, literature, and art, as treated in the histories of Botsford, Oman, West, or Myers.

2. The history of Rome to the accession of Commodus, with due reference to Roman literature and government. Such texts as those of Morey, Botsford, West, or Allen will indicate the character of the work desired.

While the periods indicated above will be accepted as satisfying the entrance requirements in ancient history, it is strongly recommended that the study of the history of Greece be continued to the conquest of Greece by Rome, and that the history of Rome be pursued to the fall of the Western Empire.

This does not necessarily imply any increase in the time devoted to Greek and Roman history.

3. The history of England, with due reference to social and political development. The histories of Andrews, Larned, and Montgomery will indicate the character of the work expected.

4. The history and government of the United States. Such texts as McLaughlin's History of the American Nation, Johnston's or Channing's History of the United States, and Fiske's Civil Government should be used.

The elementary requirement in history implies one year's work of not less than five periods a week. Work in the textbook should be constantly accompanied by collateral reading. The attention of teachers is called to the Report of the Committee of Seven, published by the Macmillan Company, New York, under the title, "The Study of History in Schools."

Advanced History.

Two units.

One of the following: —

1. The History of Greece and Rome, as described above, for those only who have offered English and American History as primary subjects.

2. The History of England and the United States, as described above, for those only who have offered Greek and Roman History as primary subjects:

3. The History of Europe, taking France or Germany as the central object of study, from the Germanic invasions to 1648.

4. Any one of the primary subjects not offered as such, combined with a detailed study of a limited period within that field.

Each of these subjects requires one year's study of not less than five recitation-periods a week. Equivalents for the subjects outlined above will be accepted.

Elementary Mathematics.

A knowledge of the metric system, and ability to perform accurately the ordinary processes of arithmetic, are presumed. The examination will include: —

(a) Algebra, through quadratic equations in one and two unknown quantities, the progressions, ratio and proportion, and the binomial theorem for positive integral exponents; also

(b) Plane Geometry, including the usual theorems on straight lines, angles, rectilinear figures, circles, and regular polygons; similar triangles and proportion; construction; simple original exercises in demonstration; numerical problems in mensuration.

Advanced Mathematics.

1. Advanced Algebra, including the elementary treatment of permutations and combinations, the theory of logarithms, undetermined coefficients, the binomial theorem for fractional and negative exponents, determinants, and the elements of the theory of equations. *One unit.*

2. Solid Geometry, including properties of straight lines and planes, dihedral and polyhedral angles; of projections, of polyhedrons, including prisms, pyramids, and the regular solids; of cylinders, cones, and spheres; of spherical triangles, and the measurement of surfaces and solids. *One unit.*

3. Plane Trigonometry, including the definition and relations of the six trigonometrical functions as ratios, proof of important formulæ, theory of logarithms and use of tables, solution of right and oblique plane triangles. *One unit.*

In Advanced Mathematics the school should insist upon the same amount of work and aim at the same standard of scholarship as the college requires in its courses in these subjects.

Physics.

(a) ELEMENTARY. The examination will be upon such elementary text-books as Gage's, or Avery's, with emphasis upon Mechanics and Energy. *One unit.*

(b) ADVANCED. In addition to (a), the candidate is required to present satisfactory evidence, by both certificate and record book, of having completed a year's course of laboratory experiments in physics of such grade as in Hall and Bergen's Text Book of Physics. *One unit.*

Chemistry.

(a) ELEMENTARY. Preparation for this requirement presupposes a course in general inorganic chemistry (the non-metals) of not less than four periods a week for a year, in amount equal to that in An Introduction to the Study of Chemistry, by Ira Remsen, with experimental work in the non-metals equal in amount to that in Remsen's or Williams's Laboratory Manual. The experiments are to be performed by the students. It is well to present a certified laboratory note-book. *One unit.*

(b) ADVANCED. The advanced requirement includes general inorganic chemistry, as in the elementary requirement, and in addition a course of not less than four periods a week for one year, devoted to the study of the metals. The amount must be equal to that in Remsen's text-book mentioned above, and involve experiments with the metals and their compounds, covering the ground of and equal in number to those in one of the above-mentioned laboratory manuals. *One unit.*

Natural History.

One or two units.

In Natural History the examiners give more weight to the character of the work than to the time spent; but at least five periods a week for half a year must have been given to each subject presented, and of this at least half should be devoted to laboratory work. Certified copies of laboratory note-books must be presented. In Botany and Zoology the work should

be on structural lines, and detailed study should have been made of at least ten types. Little credit will be allowed for time spent in the analysis of plants or the identification of birds or insects. The following are the subjects which may be presented for admission, the names of the authors of text-books in connection with each being an index of the character of the work expected. Each subject is awarded one or two units, but not more than two subjects will be accepted.

1. Botany: Atkinson, Bergen, Bessey, Campbell, Coulter, Setchell, Spaulding.
2. Zoology: Boyer, Colton, Kellogg, Kingsley, Needham.
3. Physiology: Huxley, Martin, Peabody.
4. Geology: Dana, Norton, Brigham, Tarr.

Freehand Drawing.

One unit.

The examiner requires evidence of ability to make an accurate outline or shaded drawing from a group of geometric models, or a shaded drawing from a simple cast. Such a knowledge of the fundamental principles of perspective is required as shall enable the student to draw a simple geometric figure without the use of a model. Certified drawings must be submitted, and the student may be examined on all points in doubt.

Mechanical Drawing.

One unit.

Accuracy and neatness in drawing is of the first importance, and no amount of work will make amends for neglect in these respects. The student must be familiar with the use of ordinary instruments, and able to solve geometrical problems with accuracy and rapidity. He must also be practiced in the drawing of the ellipse, the parabola, and the hyperbola, and have an elementary knowledge of projection. The suggested course is included in the first seventy-five pages of Anthony's Elements of Mechanical Drawing. Certified work of the student must be presented, and he may be examined on all points in doubt.

Advanced standing is given in this subject only on examination.

Shopwork.

One unit.

The applicant should present satisfactory evidence of famil-

ilarity with tools and materials used in the ordinary processes of wood-work, or metal-work.

Wood-work includes carpentry, turning, and pattern work. It requires a thorough knowledge of the sharpening, adjustment, and use of the tools, and ability to work from drawings.

Metal-work includes chipping, filing, and the use of machine tools, at the bench and the lathe. Whenever possible, the applicant should present models made by himself and certified by his instructor.

Advanced standing is given in this subject only on examination.

Elementary Economics.

One unit.

Preparation for Economics presupposes that the candidate has studied the subject in a systematic course of at least three periods a week for one full year. Credit in Economics will be given only on examination. The examination will be based upon such text-books as Bullock's or Seager's Introduction to the Study of Economics. A knowledge of civics and, particularly, modern industrial history is of great value in supplementing the study of economic theory.

Music.

(a) MUSICAL APPRECIATION.

One unit.

The examination will be adapted to the attainment of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate is expected to have (1) a general knowledge of the principal musical forms—song, classic dance, fugue, sonata (all movements), symphony—and of their historical development; (2) a general knowledge of the lives and environment of at least ten composers, including Bach, Mozart, Beethoven, Schubert, Chopin, and five of the following: Purcell, Handel, Gluck, Haydn, Cherubini, Weber, Rossini, Glinka, Mendelssohn, Schumann, Wagner, Verdi; (3) familiarity with certain designated works, the list of which may be had on application to the Secretary of Tufts College. In the examination on these works, the candidate will be expected to identify characteristic portions of the works set, when

played by the examiner; and to give intelligent information concerning the form and character of the works themselves. The test will not require ability to perform, nor to read from printed music.

(b) HARMONY.

One or two units.

The examination will be adapted to the proficiency of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate should have acquired (1) the ability to harmonize, in four vocal parts, simple melodies of not fewer than eight measures, in soprano or in bass: these melodies will require a knowledge of triads and inversions, of diatonic seventh chords and inversions, in the major and minor modes; and of modulation, transient or complete, to nearly-related keys; (2) analytical knowledge of ninth chords, all non-harmonic tones, and altered chords (including augmented chords). [Students are encouraged to apply this knowledge in their harmonization.]

It is urgently recommended that systematic ear-training (as to interval, melody, and chord) be a part of the preparation for this examination. Simple exercises in harmonization at the pianoforte are recommended. The student will be expected to have a full knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use.

(c) COUNTERPOINT.

One unit.

The examination will be adapted to the proficiency of those who, having completed a year's study of Harmony, have also studied Counterpoint in a systematic course of three lessons a week through one school year. The candidate should have had training in pianoforte-playing sufficient to enable him to render the Two-Part Inventions of Bach. The year's work should consist principally of written exercises on given or invented themes, as follows:—

Chorals and melodies harmonized, with use of passing and ornamental tones; the several orders of Counterpoint in two, three, and four voices, with and without *cantus firmus*; elemen-

tary practice in Double Counterpoint; Imitative Counterpoint in the style of the simpler Two-Part and Three-Part Inventions and Choral Preludes of Bach; general analytical study of contrapuntal compositions of larger scope, including detailed analysis (both as a harmonic scheme and as to contrapuntal treatment) of not less than ten pages from at least four fugues of Bach's Well-Tempered Clavichord.

There should be some practice with the C clef, in reading and in writing. Familiarity with the alto and tenor clefs is especially desirable.

(d) PIANOFORTE, OR VOICE, OR VIOLIN. *One unit.*

The examination in each of these subjects will consist of a test in theory, and a test in performance. The former will be conducted in writing, and will be adapted to the proficiency of those who have had one year's systematic training, with one lesson a week, or its equivalent. The candidate should have acquired:

A knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use; the ability to analyze the harmony and form of hymn-tunes and simplest pieces for the pianoforte, involving triads and the dominant seventh chord and their inversions, passing tones, and modulation to nearly-related keys; the ability to harmonize, on paper, in four vocal parts, melodic fragments involving the use of triads and the dominant seventh chord and their inversions in major keys.

As a basis of the test in performance, the candidate is to furnish a detailed statement from his teacher, showing the course of instrumental or vocal study pursued.

GENERAL INFORMATION RELATING TO ADMISSION

The regular examination for admission begins on the day after Commencement, and continues through the two following days. A second examination is held on the Saturday, Monday, and Tuesday preceding the beginning of the College year.

The examination begins at 9 o'clock A.M. on each of these days. See the calendar, pages 5, 6.

At the regular examination in June those who will be candidates for admission to the Freshman class one or two years later may present themselves for examination in the subjects of the Primary Group, and in others upon which their teachers may certify that they are adequately prepared. They will receive certificates of the subjects in which they pass, such subjects to be credited to them when they appear for their final examinations.

For admission to advanced standing an examination must be well sustained both in the preparatory studies and in the studies in which the candidate desires credit for advanced standing.

All students entering on examination are required to register at the office of the Registrar before taking their examinations. All students are required to register on the opening day of the College year.

The certificates of the College Entrance Examination Board will be accepted from candidates unable to appear at the College for examination.

Admission by Certificate. — Certificates covering the preparatory work of candidates for admission from New England schools are received in lieu of examination only from schools that have been approved by the New England College Entrance Certificate Board. The institutions represented upon the board are Amherst College, Boston University, Bowdoin College, Brown University, Dartmouth College, Mount Holyoke College, Smith College, Tufts College, the University of Maine, the University of Vermont, Wellesley College, Wesleyan University, and Williams College. Application for recognition upon the list of approved schools, when made to the Faculty of Tufts College, will be referred to the *Secretary of the Board, Professor N. F. Davis, 159 Brown St., Providence, R. I.*

Applications must be received before April first, in order that a school may be placed on the approved list for the next academic year.

Certificates from schools outside of New England are examined by a committee of the faculty of Tufts College. Ap-

plications for the approval of such certificates should be made to the Secretary of Tufts College.

Each certificate must cover a preparatory course of not less than four full years of school work, which must have been in approved schools, though not necessarily continuously in one school. It must contain complete answers to such questions as may be proposed by the several examiners.

Certificates should be in the hands of the Registrar of the College at least one month before the opening of the College year.

Blank forms for certificates will be sent upon request made to the *Registrar of the College, Tufts College, Massachusetts.*

Requirements for Degrees*

Students may enter upon their work in the courses of liberal arts as candidates for the degree of Bachelor of Arts, or Bachelor of Divinity. In any case the ground of promotion and of graduation is the intellectual attainment of the individual student, not a fixed requirement of a certain number of years of study.

The plan of study offered to the student is at once liberal, controlled, and elastic. It combines the essentials of the general culture which is the prime object of the undergraduate college course with an opportunity for the development of the individual on the lines to which he is especially adapted. Students determine the general direction of their work by the choice of major department. They are thereby brought into personal advisory relations with their respective major instructors, under whose guidance they arrange their programs with reference to their individual needs and aims. All work actually accomplished by the student in regular standing counts toward the attainment of the degree. The period within which the degree may be attained depends upon the industry and ability of the individual student.

SYNOPSIS OF THE REQUIREMENTS FOR A.B.†

(1) The requirement for the degree of Bachelor of Arts is the satisfactory completion of subjects aggregating one hundred and twenty-two term hours, including physical training.

(2) Students are required to attain for graduation a grade of at least C in seventy-two term hours.‡

* For the requirements for B.S. consult the index under "Courses in Science," and "Department of Engineering." For B.D., see "Crane Theological School."

† Each department offers a series of subjects for study. The unit indicating the requirements is the *term hour*, which represents a subject pursued one hour a week for one half-year. Thus a subject calling for three hours a week for one term represents a requirement of three term hours; if it calls for three hours a week for one year, or two terms, the requirement in that subject is six term hours.

‡ For the meaning of grade C, consult the index under "Marks."

- (3) The program of prescribed studies is as follows:—

	TERM HOURS
LANGUAGES (Latin, Greek, French, German: each student to take <i>three</i>)	18
ENGLISH	6
MATHEMATICS	6
PHYSICAL SCIENCE (Physics, Chemistry, Biology: each student to take <i>one, or two</i>)	12
MENTAL AND MORAL SCIENCE (of the three departments, Philosophy, Political Science, and History and Public Law, each student must take work in <i>at least two</i>) . . .	12
PHYSICAL TRAINING	2
A total of	56

The requirements are by groups, not by special subjects, and in each group except English and Physical Training some choice is allowed the student.

(4) A normal Freshman program includes English, Mathematics, an ancient language, a modern language, and a fifth subject, preferably a physical science, together with Physical Training.

(5) At the end of the first year the student is required to choose a major department, in which he must complete, before graduation, work amounting to eighteen term hours. He may offer work already done in that subject in some one of the prescribed groups as a part of the eighteen hours which he is required to give to his major department, but no subject indicated in the catalogue as elementary can be counted in such work.

(6) The student shall further complete eighteen term hours in subjects designated as collateral with his major subject; that is, subjects tending to strengthen and assist his work in his major.

(7) The remaining term hours of the required aggregate are to be made up by the election of the student from the various subjects offered, limited only by special restrictions applied to certain subjects. The number of the remaining term hours is thirty, unless, as occasionally happens, the same work counts both as prescribed and as major work. In such case, the number of elective hours is proportionately increased.

(8) Upon the satisfactory completion of the aggregate re-

quirement, the student is entitled to receive the Bachelor's degree, but no student shall be granted a degree in less than four years of residence, unless he shall have obtained grade B as an average for his entire work.

Summary

	TERM	HOURS
Prescribed work		56
Major department		18
Collateral subjects		18
Elective *		30
		<hr/>
		122

* An acceptable Commencement part counts as an elective in the second half of the Senior year. See also the second half of paragraph (7), above.

Departments of Instruction

MAJOR DEPARTMENTS

Any of the following may be chosen as major departments :

ENGLISH	POLITICAL SCIENCE
GERMAN	MATHEMATICS
FRENCH	PHYSICS
LATIN	CHEMISTRY
GREEK	BIOLOGY
PHILOSOPHY	ENGINEERING
HISTORY AND PUBLIC LAW	

In the subjoined statement of the subjects offered in the different departments, the name of the major instructor is that given at the head of each department that offers major work. In other cases the name is given of the instructor in general charge of the department. When two or more names appear, major students will be guided by the usage of the department. Names of instructors in charge of each subject are appended to the brief statement of the subject itself.

Subjects enclosed in brackets will not be given during the current year. In many cases alternates are indicated, which fill their places in the program for this year. The credit is in term hours equivalent to the number of program hours a week assigned to each subject, unless otherwise indicated. Subjects not described as half-yearly extend through both terms. Subjects that continue through only one half-year are indicated by letters in parenthesis following the proposed hour: thus (F) means "first half-year", (s) means "second half-year".

Subjects marked with an asterisk (*) will not be counted for

honors. Subjects marked with a double asterisk (**) will be counted for honors only when special conditions are complied with.

A tabular view of the program of hours accompanies the subjoined statement of the several departments. No two subjects assigned to the same hour can be taken simultaneously by any student.

ENGLISH

PROFESSOR MAULSBY AND PROFESSOR WHITTEMORE

The work of the department of English includes composition and the study of literature. Subjects 1, 2, 7, 8, 23, and 27 give practice in one or another form of composition as the result immediately held in view, but written English is required also in many of the classes aiming primarily at literary study. Subjects 1 and 2 are prescribed for all students in the College of Letters. English 8 is required of those who fail to do satisfactory work in English 1 or English 2. The subjects numbered 10, 11, 12, 15 deal each with a considerable area of literature. Major students in English are required to take one of these four subjects, and to make up the remaining twelve term hours from the other subjects. These other subjects offer opportunity for practice in advanced composition, and for the study of eminent authors, of leading critical essays, of the development of English drama and fiction. English 10, 11, 12, or 15 may be counted for honors, provided only one of these subjects is so counted. These four subjects, designed primarily for underclassmen, if taken by Seniors give only half credit.

SUBJECTS

*1. The Theory and Practice of Composition. Lectures, text-book, themes, conferences. *Tu., Th., Sat., 10.45.* (F)

PROFESSOR MAULSBY AND MR. MASSECK

*2. The Four Forms of Discourse. Lectures, text-book, themes, conferences. *Tu., Th., Sat., 10.45.* (S)

PROFESSOR MAULSBY AND MR. MASSECK

*8. The Theory and Practice of Composition. Themes, conferences. *Three hours, to be arranged.* (S)

PROFESSOR MAULSBY

[7. English Versification. Study of poetic forms and practice in poetic composition. *Tu., Th., Sat., 10.45.* (S)

PROFESSOR MAULSBY]

English 7 may be expected in 1909-1910.

[**10. The English Bible. *Tu., Th., Sat., 11.45.*

PROFESSOR WHITTEMORE]

English 10 may be expected in 1909-10.

**11. General View of English Literature. The study of representative masterpieces. Lectures, text-books, required reading, papers. *Mon., Wed., Fri., 11.45.*

PROFESSOR MAULSBY

[**12. American Literature. Lectures, required reading, text-book, essays. *Mon., Wed., Fri., 11.45.*

PROFESSOR MAULSBY]

English 12 may be expected in 1909-10.

[14. Poets of the Victorian Era, chiefly Tennyson and Browning. Lectures, reading, brief critical essays. *Tu., Th., Sat., 8.45. (s)*

PROFESSOR WHITTEMORE]

[**15. Prose of the Nineteenth Century. Lectures, reading, brief critical essays. *Mon., Wed., Fri., 11.45.*

PROFESSOR WHITTEMORE]

English 15 may be expected in 1909-10.

[16. Milton and his Time. Lectures, readings, brief critical essays. *Tu., Th., Sat., 10.45. (F)*

PROFESSOR WHITTEMORE]

[17. Shakespeare. Minute study of a few plays, lectures, quizzes. *Mon., Wed., Fri., 8.45. (F)*

PROFESSOR MAULSBY]

18. Shakespeare. Reading of ten selected plays, lectures, brief critical essays. *Mon., Wed., Fri., 8.45. (s)*

PROFESSOR MAULSBY

English 18 will be given as two half-subjects by Professor Whittemore, in 1909-10.

[19. Chaucer. Study of forms and pronunciation, reading of selections from the Canterbury Tales and the minor poems. *Mon., Wed., Fri., 10.45. (s)*

PROFESSOR MAULSBY]

[21. The Principles of Criticism. Plato, Aristotle, Longinus, Quintilian, Burke, Lessing, Coleridge, Pater. *Three hours, to be arranged. (s)*

PROFESSOR WHITTEMORE]

[23. The Short Story. Examples, and composition. *Three hours, to be arranged. (F)*

PROFESSOR WHITTEMORE]

English 23 may be expected in 1909-10.

[25. Development of the English Drama. *Mon., Wed., Fri., 9.45.*

PROFESSOR MAULSBY]

English 25 may be expected in 1909-10.

26. Development of the English Novel, in the eighteenth and nineteenth centuries. *Mon., Wed., Fri., 9.45.*

PROFESSOR MAULSBY

27. Homiletics. The Idea and Structure of the Sermon. Homiletic analysis of texts taken from the Bible; study of the sermons of eminent preachers with respect to literary form, expression, and range of illustration. Helps to sermon preparation from studies in character and literature. *Tu., Th., Sat., 11.45.*

PROFESSOR LEONARD

28. Seminar in Emerson. *Counting as six term hours for the year. Hours to be arranged.*

PROFESSOR MAULSBY.

English 28 is open only to advanced students of English.

ORATORY

PROFESSOR MAULSBY AND MR. DAVIS

It is intended that the study of oratory shall benefit the student, whether or not he looks to public speaking as a part of his profession. Oratory 1 aims at securing intelligent, natural, and forcible speech. The principles that underlie good public speaking are pointed out, and applied in individual practice. Oratory 2 is not organically connected with Oratory 1, but offers practice in argumentation and debate to Sophomores, Juniors, and Seniors. Each subject counts as three term hours.

SUBJECTS

1. The Principles of Oratory. Correct breathing and tone production; placing the voice; enunciation and pronunciation; attitude and gesture. Conferences. *Three hours, to be arranged.* (S)

MR. DAVIS

2. Argumentation and Debate. Text-book, papers, impromptu and prepared debate. Individual criticism. *Three hours, to be arranged.* (F)

PROFESSOR MAULSBY

GERMAN

PROFESSOR FAY

The aim of the department is twofold, according as the student has entered with the elementary or the advanced requirement. In the former case it is to lead him in the briefest possible time to such a mastery of the language as will enable him to use it as a source of information and medium of literary culture; where this preliminary work has already been done, to afford this literary culture itself, together with such historical and linguistic knowledge as may properly accompany advanced work in a literary department. Hence, in the elementary subjects, facility and accuracy of translation are sought by means of copious reading and careful grammatical drill; in the intermediate year the classic masterpieces are read for their own sake, together with such historical material as will throw light upon the epoch in which they were written or with which they deal; in the advanced work the systematic study of the history of the litera-

ture is undertaken, and opportunity is afforded for acquiring a knowledge of the earlier literary forms. Composition forms an important element in the instruction. Though no attempt is made to teach the student to speak the language, he is trained from the outset to hear it and to understand it when spoken, chiefly for the sake of the reflex influence of such practice upon pronunciation.

Six consecutive subjects are offered. While it is not impossible to take them all within the four college years, the scheme is based upon the supposition that the earlier subjects will have been taken in the preparatory school.

SUBJECTS

*1. Elementary German. The essentials of grammar; a German reader; reading of modern prose; dictation and composition. *Mon., Wed., Fri., 9.45.* MR. REED

German 1 is the equivalent of the entrance requirement in Elementary German, and should be taken in the Freshman year by all who enter with a condition in that subject.

*2. Review of grammatical principles, especially with reference to syntax. Reading of works by modern authors, such as Baumbach's *Der Schwiegersohn* and Storm's *Pole Poppenspäler*. Selections from Hatfield's *German Lyrics and Ballads*. Dictation and composition. *Mon., Wed., Fri., 8.45.* MR. REED

German 2, when taken by entering students, presupposes two years' study of the language in the preparatory school. It is possible for a student who has done with distinction the work of German 1, and who shall do a prescribed amount of outside reading, to omit this subject and enter German 3.

**3. First half-year: the rapid reading of modern prose in contemporary authors. Second half-year: introduction to the classic authors: Lessing, *Minna von Barnhelm*; Schiller, *Die Jungfrau von Orleans*; Goethe, *Hermann und Dorothea*. *Tu., Th., Sat., 8.45.* PROFESSOR FAY

For entering students German 3 presupposes three years of preparatory study. Either half-year may be counted as a half-subject.

**3B. German Composition. Translation from English into German; paraphrase of a German text; oral and written practice. *Tu., Th., Sat., 9.45.* MR. REED

German 3B is offered to students who are taking or have previously taken German 3 or its equivalent.

4. Schiller and Goethe. *Maria Stuart, Wallenstein, and Ballads of Schiller; Egmont, and selections from prose works of Goethe.* Collateral reading. Dictation. *Tu., Th., Sat., 11.45.* MR. REED

German 4 is open to entering students who have had four years of preparatory study, or who have passed with distinction the entrance examination in Advanced German. Juniors and Seniors whose major department is German may be permitted to take 4 and 5 in the same year.

5. Advanced reading in Lessing and Goethe. *Nathan der Weise, Emilia Galotti, Laokoon; Tasso, Iphigenie, Faust, Parts I and II, with collateral reading.* *Mon., Wed., Fri., 10.45.* PROFESSOR FAY

6. History of German Literature, with illustrative works for leading epochs. Middle High German: *Bachmann, Mittelhochdeutsches Lesebuch.* *Mon., Wed., Fri., 8.45.* PROFESSOR FAY

FRENCH

PROFESSOR FAY AND PROFESSOR LEWIS

The plan and scope of the department are, in general, the same as those of the department of German, to the statement of which the student is referred. Six consecutive subjects are offered.

SUBJECTS

*1. Elementary French. The essentials of grammar, with composition; Grandgent's Grammar; a French reader; reading of short works of modern authors in prose and verse. *Mon., Wed., Fri., 9.45.* PROFESSOR LEWIS

French 1 is the equivalent of the entrance requirement in Elementary French, and should be taken in the Freshman year by all who enter with a condition in that subject.

*2. Review of grammatical principles, especially with reference to syntax; exercise in composition; vocabulary practice; reading of modern fiction and drama, such as *Merimée's Colomba* and *Sandeau's Mademoiselle de la Seiglière.* *Mon., Wed., Fri., 8.45.* PROFESSOR LEWIS

French 2, when taken by entering students, presupposes two years' study of the language.

**3. Reading of modern authors (*Thiers, Taine, de Vigny*); introduction to seventeenth-century classics (*Corneille, Racine, Molière*). Review of grammatical principles, with advanced vocabulary practice. *Tu., Th., Sat., 8.45.* PROFESSOR LEWIS

For entering students French 3 presupposes three years of preparatory study. Either half-year may count as a half-subject.

****3B. French Composition.** Chardenal's Advanced Exercises; Pløetz, *Nouvelle Grammaire Française* and *Uebungen zur Erlernung der französischen Syntax*; brief essays and dictation. *Tu., Th., Sat., 9.45.*

PROFESSOR FAY

French 3B is offered to students who have satisfactorily completed French 2 or its equivalent. It is desirable that at least one course in German should have been taken.

4. **Literature and Manners of the Seventeenth Century.** Crane's *Société française au XVII^e Siècle*; Molière, *Le Misanthrope*, *Les Précieuses Ridicules*, *Les Femmes Savantes*; Boileau, *Les Héros de Roman*; Madame de Sévigné; La Fontaine, *Fables* (selected); Warren's *French Prose of the XVIIth Century*; collateral reading touching the political history of the period, and selections from modern critics. *Mon., Wed., Fri., 2.00.*

PROFESSOR FAY

French 4 is open to entering students who have had four years of preparatory study of the language, or who have passed with distinction the entrance examination in Advanced French. Juniors and Seniors whose major department is French may be permitted to take 4 and 5 in the same year.

5. **Literature of the Eighteenth and Nineteenth Centuries.** The drama, poetry, the novel, the philosophical essay, and criticism. *Mon., Wed., Fri., 3.00.*

PROFESSOR LEWIS

Either half-year may count as a half-subject.

[6. **A systematic study of French literature from the earliest times to the middle of the nineteenth century.** The manuals of Petit de Julleville and Brunetière will be read, together with illustrative texts for the several epochs, from which some period will be chosen for more detailed study. *Mon., Wed., Fri., 9.45.*

PROFESSOR FAY]

ITALIAN

PROFESSOR FAY

The work offered in Italian is open to those only who have had two years of college study in French, or its equivalent. With such previous training, the student is able to acquire with rapidity a reading knowledge of the language, and thus to become acquainted within the year with characteristics of contemporary and classic literature. This subject is presented in alternate years.

SUBJECT

1. Grandgent's *Grammar and Composition*; Bowen's *Reader*; Maffei, *Merope*; Dante, *Divina Commedia* (Scartazzini's edition). *Tu., Th., Sat., 10.45.*

PROFESSOR FAY

LATIN

PROFESSOR DENISON

The aim of the department of Latin is to lead students to a thorough appreciation of a language and people that have had profound influence on modern life and literature. A wide range of reading is offered, to give opportunity for acquaintance with every important division of Latin literature. Considerable time is devoted to reading at sight. The attention of students is directed constantly to the history, archaeology, art, public and private life, and religion of the Roman people, as well as to the formation and structure of their language and its relation to other languages. Due emphasis is laid on the connection between ancient and modern life and thought. The various reading courses are supplemented with lectures on appropriate topics, and are illustrated from time to time with the stereopticon. Latin 1, 2, either 3 or 4, and two composition courses are offered every year, and a number of other subjects, such as Latin 8, 9, and 10, are given, with due announcement, at regular but longer intervals. Courses 3, 4, and all designated by numbers above 7, as well as all subjects in Classical Archæology, are suitable for graduate students. The authors and works named below may be changed, but are fairly indicative of the character of the work in the several subjects.

SUBJECTS

*1. Cicero, *De Senectute*, or *De Amicitia*; Vergil, *Eclogues*; selections from Latin poets; Livy, two books; reading at sight; lectures on suitable topics. *Division (a), Mon., Wed., Fri., 11.45; Division (b), Tu., Th., Sat., 11.45.*

PROFESSOR DENISON

Latin 1 is introductory to all later subjects. Latin 5 is designed primarily for students of Latin 1 who wish for work in composition.

2. Pliny, selected letters; Petronius, *Cena Trimalchionis*; Horace, *Odes and Epodes*; Tacitus, *Germania* or *Agricola*; reading at sight; lectures on suitable topics. The authors, with the exception of Horace, belong to the Silver Age. The student is thus carried into a new epoch of Latin literature. *Tu., Th., Sat., 9.45.*

PROFESSOR DENISON

Latin 2 is open to students who have completed Latin 1.

3. Juvenal, principal *Satires*; Martial, selected *Epigrams*; Suetonius, selections; Catullus; reading at sight. Juvenal and Martial will be studied

with special reference to the information they afford concerning the history and life of the early empire. *Three hours, to be arranged.*

PROFESSOR DENISON

[4. Horace, Satires and Epistles; Plautus, one or two plays; Cicero, selected letters; reading at sight. *Three hours, to be arranged.*

PROFESSOR DENISON]

Subjects 3 and 4 will be given in alternate years, and are designed for those who have completed Latin 2, or its equivalent. They may, by special arrangement with the instructor, be taken as half subjects in either half-year.

*5. Latin Composition; translation of English narrative, based in part on the prose authors read in Latin 1, with which it may be taken most profitably. *Tu., 2.00.*

PROFESSOR DENISON

6. Latin Composition. Latin 6 is open only to students who have completed Latin 5. In particular attention is paid to idiom and style. By reason of the variation of the work from year to year, the subject may be taken a second time with due credit. *Th., 2.00.*

PROFESSOR DENISON

[8. Terence, Phormio; Cicero, Tusculan Disputations, Book I, and Dream of Scipio. *Three hours a week. (s)*

PROFESSOR DENISON]

[9. The Elegiac Poets, Tibullus, Propertius, and Ovid. *Three hours a week. (s)*

PROFESSOR DENISON]

10. Lucretius, selections; Vergil, Georgics; Seneca, Medea. *Three hours a week. (s)*

PROFESSOR DENISON

Latin 8, 9, and 10 are half-subjects, and are given, one each year, in regular rotation, if elected by a reasonable number of students. They are open to students who have completed Latin 1, but are intended to be supplementary to, not a substitute for, 2, 3, and 4. Those who wish to widen the range of their Latin reading will find these subjects suited to that end.

NOTE:—The attention of Greek and Latin students is called to related subjects listed under Classical Archæology, pages 70 and 71.

GREEK

PROFESSOR WADE

The aim of the department is to treat the Greek language not merely as a disciplinary instrument, but as a factor in the broadest and most liberal culture. Throughout the course the practice of reading at sight is encouraged, and especial effort is made to develop such facility that the student may resort with pleasure

to the masterpieces of the Greek language, and find in them the delights and inspiration of a noble literature.

To this end also considerable attention is paid to the style and literary characteristics of the authors read. The relations of Greek to the Latin, German, and English languages are discussed, and the course is shaped to develop, discipline, and enrich the linguistic resources of the student. Reading without translation is encouraged from the beginning. Incidentally, studies are made of the customs and daily life of the people. Discussion relative to the laws, philosophy, and religion of the Greeks is introduced, and some attempt is made to exhibit the indebtedness of modern civilization to Hellenism.

SUBJECTS

*1. Elementary. Goodwin's Grammar; Xenophon, *Anabasis*; Homer. *Double subject. Daily: Mon., Wed., Fri., 11.45; Tu., Th., Sat., 9.45.*

PROFESSOR WADE

Greek 1 is intended for students entering without Greek and wishing to begin the study of that language. It is assumed that their previous training in linguistic studies will enable them to proceed rapidly and accomplish in one year all the work usually done in preparation for college. This subject may be taken (without credit) as a normal course by advanced students, on consultation with the instructor.

**2. Xenophon, *Memorabilia*; Homer, *Odyssey*; Euripides, one play. *Mon., Wed., Fri., 2.00.*

PROFESSOR WADE

Greek 2 is for students who have passed Greek 1, or the entrance requirements in Greek.

3. Herodotus, Books VII and VIII; Aeschylus, *The Persians*; Sophocles, *Antigone*; Euripides, *Alcestis. Tu., Th., Sat., 11.45.*

PROFESSOR WADE

4. Lyric and Elegiac Poets, to Pindar. Aristophanes: *Clouds*, *Birds*, *Acharnians*, *Frogs*, with study of social life in Athens in the fifth century B. C. *Tu., Th., Sat., 8.45.*

PROFESSOR WADE

[5. Theocritus, *Idyls*, with study of the Alexandrine age; Lucian; Homer, the *Iliad*, or the *Odyssey*, entire, with lectures on the results of the more recent investigations of the Homeric question. *Tu., Th., Sat., 8.45.*

PROFESSOR WADE]

Subjects 4 and 5 will be given in alternate years, and are designed for those who have completed Greek 3 or its equivalent. They may, by arrangement with the instructor, be taken as half-subjects in either half-year.

**6. Greek Composition; practice in sight reading. *One hour a week.*

PROFESSOR WADE

Greek 6 may be taken by anyone who has had the equivalent of Greek 1.

7. Greek Composition; reading at sight. *One hour a week.*

PROFESSOR WADE

Greek 7 is open only to students who have completed Greek 6.

NOTE:—No student can be recommended as a teacher of Greek who has not taken at least one subject in Greek composition.

8. Plato: several of the shorter dialogues. *Three hours a week.* (F)

PROFESSOR WADE

Greek 8 is open to students who have completed Greek 2.

[9. Orators: Antiphon; Androcides; Lysias; Demosthenes. Reading and lectures. *Three hours a week.* (F)

PROFESSOR WADE]

Greek 9 is open to students who have completed Greek 2.

11. Advanced subject, for the degree of Master of Arts. Work will be arranged on consultation with the instructor, to suit the needs of the student.

PROFESSOR WADE

CLASSICAL ARCHÆOLOGY

Under Classical Archæology are grouped subjects of the Greek and Latin departments which deal, to a large measure in lecture form, with the art, life (both public and private), and religion of the ancient Greeks and Romans. The work will consist of lectures, collateral reading and investigation, and papers. There will be illustration, wherever possible, with photographs, stereopticon, and specimens. The following subjects are intended to supplement the reading of classical authors, which naturally forms the basis of serious study in Classical Archæology. It is intended to give two subjects each year, as follows:—

SUBJECTS

[1. Greek, Roman, and Etruscan Architecture. *Mon., Wed., Fri., 9.45.* (F)

PROFESSOR DENISON]

[2. Greek and Roman Sculpture. *Mon., Wed., Fri., 9.45.* (S)

PROFESSOR WADE]

Classical Archæology 1 and 2 will be given in 1910-11.

3. Roman Private Life. *Mon., Wed., Fri., 9.45.* (F) PROFESSOR DENISON

[4. Greek Private Life. *Mon., Wed., Fri., 9.45.* (S) PROFESSOR WADE]

In subjects 3 and 4 there will be systematic treatment of such topics as the customs pertaining to birth, education, marriage, death, the house, furniture, dress, meals, amusements.

- [5. Roman Public Life. *Mon., Wed., Fri., 9.45.* (F)

PROFESSOR DENISON]

Classical Archaeology 4 and 5 will be given in 1909-10.

6. Greek Public Life. *Mon., Wed., Fri., 9.45.* (S) PROFESSOR WADE

In subjects 5 and 6 there will be systematic study of such topics as the geography and topography of the ancient world, commerce and navigation, political, legal, and military institutions, measures and money, books, inscriptions, religion and festivals, chronology and calendar.

HEBREW

PROFESSOR WOODBRIDGE

Hebrew is offered as a foundation for the critical study of Old Testament literature, and of a more intimate understanding of Hebrew thought and life.

SUBJECTS

1. The Elements of Grammar; translation of portions of Genesis, of the Book of Ruth, and of other selections. *Tu., Th., Sat., 11.45.*

PROFESSOR WOODBRIDGE

2. Syntax; critical reading from the Historical Books, from the Prophets, and from the Psalms. *Three hours a week.*

PROFESSOR WOODBRIDGE

PHILOSOPHY*

PROFESSOR CUSHMAN, PROFESSOR TOUSEY, AND

PROFESSOR KNIGHT

The department offers work in all the traditional branches of philosophy, adapted to the needs of many kinds of students. To the specialist in science it affords a comprehensive view of the sciences from the point of view of metaphysics. To the student seeking general culture it affords the liberalizing study of the history of philosophy. To the student of mathematics it commends logic as a necessary supplement to his work. To the specialist in philosophy it will give work as far as an undergraduate should go. The beginner has open to him the choice of three subjects: logic, psychology, and the history of philosophy. In all cases where there is opportunity it is advised that the student begin with the history of philosophy. To follow this natural course makes of philosophy an inductive science. The

* The three departments of Philosophy, History and Public Law, and Political Science constitute the group of Mental and Moral Science, in at least two of which twelve term-hours of work are required for the degree of A.B. See page 58.

other subjects may then follow at the student's option, or as his specific needs seem to demand. Students choosing philosophy as their major department will be expected to take at least three term hours each in the history of philosophy, logic, and psychology, and to make up three years of continuous work. The Philosophical Club holds meetings during the year. It gives opportunity to the students of discussing philosophical subjects collateral with the regular work, and often invites eminent persons to address it on special topics.

INTRODUCTORY SUBJECTS

[1. History of Ancient Philosophy: the religious period of ancient thought, the pre-Socratic Greeks, the Greek Enlightenment, Plato and Aristotle; the Hellenic-Roman thought, including Stoicism, Epicureanism, neo-Platonism, and early Christianity. Lectures, and text-book: Windelband's History of Ancient Philosophy. *Tu., Th., Sat., 9.45.* (F)

PROFESSOR CUSHMAN]


2. History of Modern Philosophy: the beginnings of modern thought in the middle ages, the Renaissance (1500-1688), the modern Enlightenment (1689-1781), German philosophy from Kant to Hegel (1781-1820), modern Evolution theories. Lectures and text-book. *Tu., Th., Sat., 9.45.* (F)

PROFESSOR CUSHMAN

Philosophy 1 and 2 are given at the same hour in alternate years.

3. Logic. Scope of the science; psychological data; concepts and propositions; first principles of thought; inference, deductive and inductive; elementary study of fallacies. *Tu., Th., Sat., 10.45.* (F) PROFESSOR TOUSEY

5. Psychology. Lectures, and illustrative experiments. The phenomena of consciousness are studied with reference to the physiology of the nervous system, including the brain, eye, ear, skin, nose, and mouth. The elements of consciousness, social psychology. Laboratory demonstrations. *Three hours for the year, to be arranged.* PROFESSOR CUSHMAN

 Before pursuing Advanced Subjects in philosophy, students must have passed satisfactorily in one of these Introductory Subjects.

ADVANCED SUBJECTS

4. Logic. Special discussion of the more important themes of Philosophy 3; particular consideration of scientific method; recent developments of the science; fallacious tendencies of mind; advanced treatment of fallacies. *Tu., Th., Sat., 10.45.* (s) PROFESSOR TOUSEY

Philosophy 4 is open only to those who have received credit in Philosophy 3.

[17. Logic. Studies in argumentative literature, with the aim to bring logical theory into relation with the practical requirements of research, ad-

vocacy, and criticism; and to illustrate the principles governing the effective presentation of arguments. Use will be made of selected examples of reasoned discourse, supplemented by discussions, and constructive work by the student. *Three hours, to be arranged.* (S) PROFESSOR TOUSEY]

Philosophy 17 is open only to those who have received credit in Philosophy 3.

6. Ethics, Theory of. The moral nature; springs of conduct; moral judgments; theories of the moral standard, particularly sentimentalism, hedonism, rigorism, eudæmonism; moral volition, with critical examination of the doctrines of free will and determinism; the moral ideal. Text-books, lectures, assigned reading, themes. *Mon., Wed., Fri., 10.45.* (F)

PROFESSOR TOUSEY

7. Ethics, Applied. Bearing of moral theory on the problems of (a) the individual life, (b) the social life. Special consideration of duties, rights, temperance, charities, moral pathology, penology, ethics of belief. Text-books, lectures, prescribed reading, and theses. *Mon., Wed., Fri., 10.45.* (S)

PROFESSOR TOUSEY

8. Ethics, Historical and Critical. History of ethical speculation; development of moral customs and ideals. Text-books, lectures, prescribed studies in the classics of ethical literature, and theses. *Three hours, to be arranged.* (F)

PROFESSOR TOUSEY

9. Metaphysics: the Theory of Reality, including a review and criticism of the common theories of life, such as materialism, realism, theism, mysticism, idealism, and the fundamental problems involved. Lectures, theses, text-book. *Three hours, to be arranged.* PROFESSOR CUSHMAN

The problems discussed are those fundamental to science, ethics, æsthetics, and logic, considered from the point of view of metaphysics. Among these are the questions of teleology, consciousness and self-consciousness, personality, immortality, freedom and necessity, causation, nature, evil, beauty.

[11. English Philosophy from Hobbes to Hume. The historical development of the English school of thought until Hume, with a critical and expository reading of the works of Hobbes, Locke, Berkeley, and Hume, together with a survey of contemporaneous and other political theories, such as those of Spinoza, Hooker, Rousseau, and Grotius. *Tu., Th., Sat., 9.45.* (S)

PROFESSOR CUSHMAN]

Philosophy 11 will be given in 1910-11.

12. The Philosophy of Kant. A careful critical and expository reading of the Critiques of the Pure Reason, the Practical Reason, and the Judgment, in Watson's translation. The historical position of Kant with reference to his predecessors and to his influence upon modern thought. Lectures, prescribed reading. *Tu., Th., Sat., 9.45.* (S) PROFESSOR CUSHMAN

[13. Descartes, Spinoza, and Leibnitz, their historical development and doctrines, with a critical and expository reading of their works. Lectures and prescribed reading. *Tu., Th., Sat., 9.45* (S) PROFESSOR CUSHMAN]
Philosophy 13 will be given in 1910-11.

[14. Plato: reading of the Dialogues, Jowett's translation. *Tu., Th., Sat., 9.45.* (S) PROFESSOR CUSHMAN]
Philosophy 14 will be given in 1909-10.

15. The Philosophy of Theism. The final problem; limits of the intelligence; final cause in nature; evidences of a moral order; theistic and anti-theistic argumentation; intuitivism. *Mon., Wed., Fri., 11.45.*
PROFESSOR TOUSEY

16. The Philosophy of Religion, historical, critical, and constructive. Topical reports by the class, and lectures. *Tu., Th., Sat., 11.45.*
PROFESSOR KNIGHT

18. Psycho-Pathology. The mental and moral origin of functional nervous disorders, and their treatment by methods of suggestion. *Tu., Th., 3.00; Wed., 12.00.* (F) PROFESSOR PRINCE

Philosophy 18 should accompany or succeed Philosophy 5. The Tuesday and Thursday lectures will be given at the Medical School, Huntington Avenue, Boston. The Wednesday exercise will be a clinic at the Boston City Hospital.

19. The Application of Psychology to the Work of the Ministry. *Three hours, to be arranged.* (S) MR. SHIELDS
Philosophy 19 will be given at Miner Hall, Tufts College.

EDUCATION

The courses in Education are primarily for students who intend to become teachers. They are arranged to meet the growing requirements of the best city school boards. For general preparation all candidates for teachers' positions should take in connection with the two subjects given below three hours of Logic and six hours of Psychology. They should also be well equipped in American and English literature and in general history. For positions in some schools a course of three hours in the theory of music and another in drawing are necessary. Besides the above general equipment, there is need of thorough training in the specialty to be taught.

SUBJECTS

[1. The History of Education. Munroe's smaller history, biographies. *Tu., Th., Sat., 11.45.* (F) PROFESSOR CUSHMAN]

[2. Educational Theory. Text-book ; educational reports ; discussions.
Tu., Th., Sat., 11.45. (s) PROFESSOR CUSHMAN]
Education 1 and 2 will be given in 1909-10.

HISTORY AND PUBLIC LAW*

PROFESSOR EVANS AND PROFESSOR BOLLES

The department aims to develop the idea of unity in the history of mankind, and to make the study of all history of practical value through its relation to present-day problems and conditions. To this end the approach is made through subjects intended to give a thorough scientific knowledge of essential facts, and so arranged as to show these facts in their proper relations. History 1 is the introductory subject by which the student is prepared for more detailed work. History 2 and 22 are devoted to the history of England, History 3 and 33 to the history of the United States. The subjects numbered from 4 to 7 offer to properly qualified students opportunity to make a more detailed study of limited periods. These subjects are arranged in two series, which alternate with each other from year to year, and thus cover a considerable range. History 15 is devoted to research.

Students expecting to make History their principal study are urged to devote considerable time in their first and second years to the study of modern languages. In History 4, 5, 6, and 7 a reading knowledge of French is assumed.

In the division of Public Law and Administration the object is to furnish such general knowledge of political institutions and their working as is needed by every intelligent citizen, and also to assist those who expect to enter the legal profession or the government service. The study of law and government is closely related to the study of history, and hence one year of history is required for admission to the work in Public Law. The work in this group begins with a study of the political institutions of the United States, which is followed by more advanced subjects dealing with the institutions of our own and

* See note, page 71.

other countries, as well as by subjects treating international relations, and the history and principles of jurisprudence. A knowledge of French is desirable, and in some cases indispensable.

History

SUBJECTS.

1. The General History of Europe since the Fall of Rome. History 1 is an outline course, designed to give a comprehensive view of the various political, religious, industrial, and social factors of the history of Europe, and thus to pave the way for a more detailed study of limited periods. Text-books, lectures, assigned readings, and the preparation of themes.

Mon., Wed., Fri., 10.45.

PROFESSOR EVANS AND MR. LOUD

History 1 must precede all other subjects in History, excepting History 2, which it may either precede or accompany. History 1 and 2 will not be accepted for an advanced degree. Students desiring to take as many subjects as possible in the department should elect History 1 and 2 in their second year.

[2. History of England to 1688. Text-book, lectures, analyses, and themes. *Mon., Wed., Fri., 8.45.*

PROFESSOR BOLLES]

History 2 may be expected in 1909-10.

22. History of England from 1688 to 1900. *Mon., Wed., Fri., 8.45.*

PROFESSOR BOLLES

3. History of America to 1846 (Mexican War). Text-book, lectures, analyses, and themes. *Mon., Wed., Fri., 10.45.*

PROFESSOR BOLLES

[33. History of America from 1846 to 1900. *Mon., Wed., Fri., 10.45.*

PROFESSOR BOLLES]

History 33 may be expected in 1909-10.

[4. The History of the Continent during the Seventeenth and Eighteenth Centuries. A somewhat detailed study of the rise of Russia, the creation of Prussia, the rule of Richelieu and Mazarin, the age of Louis XIV, and the Ancient Regime. *Mon., Wed., Fri., 3.00 (F)*

PROFESSOR EVANS]

[5. The Expansion of Europe through the establishment of Colonies. A study of the acquisition of colonial dominion, the operations of the great trading companies, the rivalry of the European states in America and India, the Spanish colonial system in America and the Philippines, and the colonization and partition of Africa. *Mon., Wed., Fri., 3.00. (S)*

PROFESSOR EVANS]

History 4 and 5 will not be given in 1908-09, but may be expected in 1909-10.

6. The French Revolution and the Napoleonic Period. The history of Europe from 1789 to 1815. *Mon., Wed., Fri., 3.00.* (F)

PROFESSOR EVANS

7. The Nineteenth Century. One of the chief purposes of History 7 is to furnish some explanation of present-day questions in European politics. *Mon., Wed., Fri., 3.00.* (S)

PROFESSOR EVANS


History 6 and 7 will not be given in 1909-10, but may be expected in 1910-11.

15. Seminary in History and Public Law. Investigation of selected topics from the sources. During the year 1908-09 the principal subject of study will be the diplomatic history of the United States. History 15 is open only to such students, making History their major subject, as receive the special permission of the instructor. *Hours and credit to be arranged with the instructor.*

PROFESSOR EVANS

Public Law and Administration

SUBJECTS

 History 1 must precede all subjects in Public Law. Students desiring to take all the subjects in this group should elect History 1 in their second year, and Public Law 1 and 2, or their alternates, in their third year.

1. Political Institutions of the United States—Federal, State, and Municipal. A study is made of government from the standpoint both of constitutional arrangements and of its actual working as modified by usage and existing conditions. Political parties and their organization, together with the attempts made to regulate them by law, will be studied. Text-book: Bryce, *The American Commonwealth*, accompanied by lectures, assigned readings, and the preparation of a thesis. *Mon., Wed., Fri., 11.45.* (F)

PROFESSOR EVANS

2. Constitutional Law. A study of the Constitution of the United States, as interpreted in the chief decisions of the Supreme Court. *Mon., Wed., Fri., 11.45.* (S)

PROFESSOR EVANS

Public Law 1 and 2 will not be given in 1909-10, but may be expected in 1910-11.

[4. European Government and Politics. A study of the constitutions of the chief European states, together with a consideration of some of the most important questions of European politics. A reading knowledge of French is desirable. Text-book, lectures, assigned reading, and the preparation of a thesis. *Mon., Wed., Fri., 11.45.* (F) PROFESSOR EVANS]

[5. International Law and the History of Diplomacy: the history of international law, a consideration of its leading principles, and some

account of the most important treaties and diplomatic controversies. Text-book, lectures, assigned readings, and the preparation of a thesis. *Mon., Wed., Fri., 11.45.* (F) PROFESSOR EVANS]

[7. Elements of Jurisprudence. A study of the leading juristic principles, based on the Institutes of Justinian and Blackstone's Commentaries, designed to fit students for a more intelligent study of the law from a professional standpoint. *Mon., Wed., Fri., 11.45.* (S) PROFESSOR EVANS]

Public Law 5 and 7 may be expected in 1909-10.

HISTORY OF RELIGIONS

PROFESSORS WOODBRIDGE, HARMON, AND KNIGHT

The department of History of Religions deals with a special phase of the general subject of history, showing the growth of superstition and religion, and their relation to civilization — including politics, social life, philosophy, literature, art, and personal character. The subjects offered are primarily for advanced students.

SUBJECTS

1. Life and literature of the Hebrew people, from the beginnings to the Greek period. *Mon., Wed., Fri., 4.00.* PROFESSOR WOODBRIDGE

2. A study of Jewish life in contact with Hellenistic culture and Roman provincial administration. *Three hours, to be arranged.* (S) PROFESSOR HARMON

3. History of the Beginnings of Christianity. A study of the time of Jesus, of the rise and growth of the apostolic church, and of its literature. *Mon., Wed., Fri., 3.00.* (F) PROFESSOR HARMON

4. Non-Christian Religions. Comparative studies of religion and civilization in ancient Egypt, Chaldea, Greece, Rome, and Germany, and in ancient and modern India, China, Japan, and Turkey. *Tu., Th., Sat., 8.45.* (F) PROFESSOR KNIGHT

5. History of the Church, including the Sects, from the Apostles to the present time. *Tu., Th., Sat., 9.45.* PROFESSOR KNIGHT

POLITICAL SCIENCE*

PROFESSOR METCALF

In its course of instruction, the chief aim of the department of Political Science is to give a general view of the most important branches of economics, beginning with the elements of the science and passing by degrees to work of the investigative

* See note, page 71

order. In addition to this broad general outline of economics, the courses and the methods of study are arranged with reference to the constantly increasing needs of those who are fitting themselves for various practical careers, such as banking, transportation, or mercantile work; and to those who look forward to social and philanthropic work as a profession. Subject 12 is especially designed as training for those who are planning for a business career, or for social and philanthropic work as a profession. It should be taken in the Senior year, and is open only to students who are especially qualified to do the work. Students who are planning for a business life should begin the study of economics not later than the Sophomore year.

Subject 1 is designed to lay the foundation for the more advanced work, but endeavors at the same time to satisfy the wants of those who seek simply a general knowledge of economics. It is open to Freshmen. The character of the work in the advanced subjects is outlined in connection with the following statement.

SUBJECTS

*1. Elements of Economics. (a) Exposition of the fundamental principles of the production, distribution, exchange, and consumption of wealth. Economics 1 does not count for honors. (b) The present organization of industry, trades unions, coöperation, profit-sharing, immigration, child labor, woman in industry, factory legislation, workingmen's insurance, socialism. Text-book and lectures. *Tu., Th., Sat., 10.45.*

PROFESSOR METCALF

[2. Modern Industrial History of Europe. After a brief survey of the economic conditions in the European countries at the close of the Middle Ages, the chief attention will be given to the Industrial Revolution in England, and to the rise of modern industrial Germany. Lectures and recitations. *Mon., Wed., Fri., 9.45.* (F)

PROFESSOR METCALF]

Political Science 2 will be given in 1909-10.

22. Economic and Industrial History of the United States. Bogart's Economic History of the United States is used as a guide. *Mon., Wed., Fri., 9.45.* (F)

PROFESSOR METCALF

3. Practical Sociology. The nature and scope of social science. Economics 3 is conducted with reference to American conditions, and covers such topics as the status of the population of the United States; the units of social organization; special social problems of city life; questions

of the family; wealth and poverty; the temperance question; criminology, penology; social achievement in the United States. Lectures and recitations. *Mon., Wed., Fri., 8.45.* (S) PROFESSOR METCALF

4. Principles of Public Finance. Public expenditures; classification of public revenues; recent reforms in taxation; the development and significance of public debts; financial administration; recent European and American works on finance. The Elements of Public Finance, by Daniels, is used as a guide. Lectures and discussions. *Tu., Th., Sat., 8.45.* (F) PROFESSOR METCALF

5. Money, Credit, and Banking: an historical course, with special reference to the financial experience of the United States. Leading topics are Hamilton's financial system; protection and revenue tariffs; the bank question; the fiscal policy of the Civil War; resumption of specie payments; the national banking system; state and local taxation; silver legislation and the panic of 1893; government loans; present currency problems. Dewey's Financial History of the United States is used as a guide. *Tu., Th., Sat., 8.45.* (S) PROFESSOR METCALF

6. Modern Industrial Combinations. The economics of corporations, with special reference to the so-called trust problem. Among the topics treated are trust promotion, capitalization, trusts and industrial efficiency, influence of combinations upon prices, profits, wages, rights of investors, international trade, industrial stability, and business honor; the practical results attained through publicity, taxation, and State regulation. Lectures, recitations, and reports. *Tu., Th., Sat., 9.45.* (F) PROFESSOR METCALF

16. Modern Labor Problems. This subject deals mainly with the social and economic problems arising from the relations of employers and their laborers. The chief topics will be the growth, methods, and aims of modern associations of wage earners; methods of conciliation and arbitration; strike and factory legislation; employers' liability and recent compensation acts; compulsory publicity; provident institutions and friendly societies. Each member of the class will be expected to make a report upon a labor union. Lectures and recitations. *Tu., Th., Sat., 9.45.* (S) PROFESSOR METCALF

10. Transportation Problems. The economic, financial, and social problems arising from modern systems of transportation, with special reference to railway transportation in the United States. The chief topics are: brief historic survey of water and railway transportation; railway charters, powers of directors and stockholders, the nature of railway securities; railway traffic; fares, rate making, rebates, pooling and railway consolidations; the American systems of State railway commissions, the Interstate Commerce Commission, the recent extensions of Federal con-

trol; the effects of transportation systems upon industrial competition. A part of the time will be devoted to some of the more recent problems of electric railway development. A special report will be required from each student of the subject. Lectures and recitations. *Three hours, to be arranged.* (S)

PROFESSOR METCALF

12. Vocational Training. *Business Organization and Management.* The structure of modern industry; increased complexity and integration of business structure; different systems of business organization; norms of standardization; staff and departmental organization; departments of research and industrial improvement. The standard of business honor; cultural bearing of business enterprise. Can business callings be placed upon a professional basis?

Women and Industry. Women's fitness for industrial life; women's pay; the place of domestic service in industry; occupational opportunities.

Betterment. Industrial hygiene; welfare work as a means of maintaining friendly relations between employer and employed; essential principles of welfare work; examples of successful welfare institutions in the United States and in Europe; the functions of the welfare manager; welfare work as a profession for men and women.

Industrial Education. Unemployment and misemployment; industrial education and industrial efficiency; the State and industrial education; demand for such education; the relation between academic and technical education; types of trade and industrial schools; trade education and trade unions; industrial education as a social force; the education best suited for those entering upon trade and commerce; the demand for teachers of industrial and trade training.

Social Technology. Education for social efficiency; social work, social legislation, social settlements; principles adapted to the work of social organizers. Social and philanthropic work as a profession for men and women. *Three hours, to be arranged.*

PROFESSOR METCALF

[8. Municipal Problems in Europe and the United States. Growth of modern cities, municipal monopolies, public works, recreation, sanitation; the public control, ownership, and operation of public service utilities, such as gas works, electric lighting plants, and street railway systems; the advantages and disadvantages of municipal trade; municipal trade and socialism. Lectures and recitations. *Mon., Wed., Fri., 9.45.* (S)

PROFESSOR METCALF]

Political Science 8 will be given in 1909-10.

7. The History of Economics: an account of the beginnings, the progress, and the various schools of economic science; study of the writings of Adam Smith, Ricardo, Mill, and others. Political Science 7 is open to advanced students who are specializing in the department. A reading knowledge of French and German is desirable. *Mon., Wed., Fri., 4.00.* (S)

PROFESSOR METCALF

9. Seminary in Economics and Sociology, designed for advanced students who are specializing in the department. Questions in economics, statistics, or sociology may be selected. *Hours and credit to be arranged with the instructor.*

PROFESSOR METCALF

MATHEMATICS

PROFESSOR WREN AND ASSISTANT PROFESSOR RANSOM

The aim of the instruction in mathematics is to cultivate power of exact thinking, as well as skill in symbolic methods of drawing necessary conclusions. The class-room work is a combination of lectures with questioning of the students to ascertain that the points presented have been duly comprehended.

Mathematics 3, with 1 or 2, constitutes the required work in mathematics. The two required subjects should be taken in the Freshman year. Students who intend to pursue further work in the department should take 1 in preference to 2, and should take 4, 5, and 6 in the Sophomore and Junior years. Other subjects may be taken when the student is prepared for each. Subjects 9, 10, 13, and 14 require a knowledge of the calculus. Juniors and Seniors who have mastered the calculus may elect any of the remaining subjects.

Certain other subjects are of great value in supplementing and illustrating mathematical studies. Attention is called especially to Drawing 21-1 and 21-5, to Civil Engineering 41-1 and 41-2, and to Structural Engineering, 47-1.*

SUBJECTS

3. Trigonometry. *Tu., Th., Sat.: Division (a), 8.45; Division (b), 9.45.*
(F) PROFESSOR WREN AND ASSISTANT PROFESSOR RANSOM

1. College Algebra. *Tu., Th., Sat., 8.45.* (S) PROFESSOR WREN

2. Solid Geometry. *Tu., Th., Sat., 9.45.* (S)

ASSISTANT PROFESSOR RANSOM

4. Analytical Geometry. *Mon., Wed., Fri., 11.45.* (F)
PROFESSOR WREN

5. Elements of the Calculus. *Mon., Wed., Fri., 11.45.* (S)
PROFESSOR WREN

6. Differential and Integral Calculus. *Mon., Wed., Fri., 9.45.* (F)
PROFESSOR WREN

7. Differential and Integral Calculus (advanced). *Mon., Wed., Fri., 9.45.* (S)
PROFESSOR WREN

* See pages 133, 140, and 143.

[9. Theory of Equations and Determinants. *Three hours for the first half-year.* ASSISTANT PROFESSOR RANSOM]

10. Differential Equations. *Three hours for the second half-year.* PROFESSOR WREN

[12. Quaternions. *Three hours for the first half-year.* PROFESSOR WREN]

Mathematics 12 is open to students who have completed Mathematics 1, 2, 3, and 4.

[13. The Theory of the Potential Function. *Three hours for the second half-year.* PROFESSOR WREN]

14. Theoretical Mechanics. *Hours to be arranged.* ASSISTANT PROFESSOR RANSOM

PHYSICS

PROFESSOR H. G. CHASE

Two subjects are open to those who are beginning Physics. Physics 1 is intended for students in the College of Letters who are taking but six hours in physics as a part of the prescribed work in science. Physics 31-1 is a subject for engineers and those who are to continue the work of the department. All candidates for the degree of Bachelor of Science are required to take Physics 31-1, 31-2, 31-3, and 31-4. Major students in the department are not admitted to Physics 1. A text-book is used in each subject, practical comments and additional material are supplied, and frequent lectures are given, with experiments. The aim is to present the science of physics, not as a series of detached subjects, but as a consistent body of doctrine in which mechanical principles hold throughout, from which all the various phenomena are deducible. In each branch there are frequent returns to these first principles.

In the laboratory students are given a syllabus of the work for a guide. This syllabus is supplemented by Glazebrook's Physical Optics; Kaulrausch's Measurements; Stewart and Gee's Practical Physics, vols. 1 and 2; Glazebrook and Shaw's Practical Physics; Nichols's Laboratory Manual, vols. 1 and 2; and Watson's Practical Physics. In addition to the experimental and note-book work, many problems are solved.

The attention of major students in the department is called to the courses offered in the department of Electrical Engineering, and to the work in Applied Mechanics. Major students are strongly advised to elect the course in Mechanical Drawing.

SUBJECTS

1. General Physics. Lectures and experiments. Physics 1 is to be taken by students who choose physics for their prescribed science subject, and who do not intend to continue the work of the department. *Mon., Wed., Fri., 10.45.* PROFESSOR H. G. CHASE

Mathematics 3 must precede or accompany Physics 1.

31-1. Mechanics and Sound. Physics 70 is introductory to all the other subjects offered by the department, except Physics 1. *Tu., Th., Sat., 11.45.* (S) PROFESSOR H. G. CHASE, PROFESSOR HOOPER, MR. ROLLINS, AND MR. MORLEY

Mathematics 3, or its equivalent, must precede Physics 70.

31-2. Electricity and Magnetism, and Light. *Tu., Th., Sat., 10.45 or 11.45.* (F) PROFESSOR H. G. CHASE, PROFESSOR HOOPER, MR. MORLEY, AND MR. ROLLINS

31-3. Mechanics and Heat. *Tu., Th., Sat., 10.45, or the same days at 11.45.* (S) PROFESSOR H. G. CHASE AND MR. MORLEY

31-4. Physical Laboratory. *Mon., Wed., 8.45 to 11.45, or Tu., Th., 2 to 5.* (F); and *Mon., Wed., 8.45 to 11.45, or 2 to 5, or Tu., Th., 2 to 5.* (S) PROFESSOR H. G. CHASE, PROFESSOR RANSOM, MR. ROLLINS, AND MR. MORLEY

2. Electricity. Thompson's Elementary Lessons in Electricity and Magnetism. Lectures and recitations. *Mon., Wed., Fri., 11.45.* (S)

PROFESSOR H. G. CHASE OR MR. MORLEY

31-5. Electricity. Elementary Mathematical Treatment. *Tu., Th., Sat., 8.45.* (F) PROFESSOR H. G. CHASE AND PROFESSOR HOOPER

31-6. Electrical Laboratory. Measurements and Tests. *Counting as two term hours. Tu., Th., 9.45 to 12.45; or Tu., Th., 2 to 5.* (F)

MR. ROLLINS AND MR. MUNRO

Physics 31-6 must be preceded by Physics 31-5.

[6. Light and Sound. Recitations, lectures, and laboratory work. *Counting as six term hours. Hours to be arranged.*

PROFESSOR H. G. CHASE]

[9. Heat. Lectures and recitations, based on Preston's Theory of Heat. Mathematics 6 is a prerequisite of Physics 9. *Counting as three term hours.* (F) *Hours to be arranged.*

PROFESSOR H. G. CHASE]

NOTE. Courses numbered 31-1 and over are intended primarily for Engineers.

CHEMISTRY

PROFESSOR DURKEE AND ASSISTANT PROFESSOR COBB

The work in the department begins with Chemistry 1, which is open for election by the students of the courses in liberal arts, and is required of engineering students in their second year. The instruction is by means of lectures, recitations, and laboratory work. The lectures, illustrated with numerous experiments, are intended to give a thorough elementary knowledge of theoretical and descriptive inorganic chemistry, including a brief account of the chemistry of the carbon compounds and the principal technical processes. One-half of the time devoted to this subject is given to practical work in the laboratory, and the student has an opportunity to verify some of the chemical theories, and to become familiar with substances and their chemical behavior. The lectures are supplemented with recitations and written exercises. An opportunity to continue the study of theoretical and advanced inorganic chemistry is afforded by subject 11, a course of lectures with laboratory practice, in which simple physical and chemical measurements are made, and some of the less common preparations.

The instruction in qualitative analysis is given through a year, in two subjects (2 and 3), taught in part by lectures and recitations, but mainly by work in the laboratory. During the advanced course the student is required to analyze correctly alloys, mixtures of salts, minerals, slags, and other metallurgical products. Quantitative analysis is taught for the most part in the laboratory, and is designed to give the student the theoretical knowledge and skill in manipulation which are necessary for success in this kind of work. In subject 4 the student is required to analyze the simpler salts, alloys, and minerals. In subject 5 water and the more complicated minerals, ores, and commercial and food products are analyzed. Organic analysis is included in subject 5. Technical gas analysis (subject 9) is taught by lectures and laboratory work. The Orsat, Hempel, and Elliott systems are used. Assaying (subject 7) is adapted to familiarizing the student with the practical

methods and theory of sampling and assaying gold and silver ores. The above subjects cover a comprehensive study of analytic chemistry, and are intended to give the student such thorough theoretical and practical knowledge as to prepare him for analytical work of almost any description. Metallurgy (subject 8) is intended to give the student some of the more important methods of extracting gold and silver from ores. It should be taken after or in connection with Fire Assay (subject 7). The metallurgy of iron and steel is an alternative.

The work in organic chemistry consists of a course of experimental lectures, together with recitations and laboratory work, which are designed to cover the general principles and methods, and include a description of the most important organic compounds. The laboratory practice in organic chemistry will be carried on in connection with subject 10, and will include the preparation of many typical compounds.

In Chemistry 12, opportunity will be given advanced students, under the direction of instructors, for the consideration and discussion of chemical subjects and recent investigations.

The quantitative and organic laboratories are open from nine to five o'clock daily, Saturday afternoons excepted.

SUBJECTS

1. General Chemistry. Lectures, recitations, and laboratory work. *Lecture, Wed., Fri., 11.45; three hours of laboratory work, Mon., 2.00 to 5.00. Counting as six term hours.*

PROFESSOR DURKEE, ASSISTANT PROFESSOR COBB, AND ASSISTANTS

2. Qualitative Analysis. Basic analysis. Lectures, laboratory work, and recitations. *Tu., Th., 2.00 to 5.00 (F) Counting as three term hours.*

PROFESSOR DURKEE AND ASSISTANTS

3. Qualitative Analysis. Acids, analysis of salts, commercial and natural products. Lectures, laboratory work, and recitations. *Tu., Th., 2.00 to 5.00. (S) Counting as three term hours.*

PROFESSOR DURKEE AND ASSISTANTS

4. Quantitative Analysis. Gravimetric and volumetric analysis; analysis of minerals. Lectures and laboratory work. *Mon., Fri., 2.00 to 5.00. Counting as six term hours.*

PROFESSOR DURKEE

5. Quantitative Analysis (advanced course). Analysis of minerals, ores, water, food products, organic analysis. Laboratory work. *Mon., Fri., 2.00 to 5.00. Counting as six term hours.*

PROFESSOR DURKEE

7. Fire Assay. Open to students who have taken 1, 2, 3, and 4. *Tu., Th., 2.00 to 5.00. (S) Counting as two term hours.*

PROFESSOR DURKEE

8. Metallurgy of Gold and Silver. Lectures, recitations, and laboratory work. Chemistry 8 is open to students who have taken Chemistry 1. Metallurgy of iron and steel is alternative. *Wed., Fri., 10.45. (S)*

PROFESSOR DURKEE

9. Gas Analysis. Lectures and laboratory work. Chemistry 9 is open to students who have taken Chemistry 1, 2, 3, and 4. *Mon., 2.00 to 5.00. Counting as one term hour. (F)*

PROFESSOR DURKEE

10. Organic Chemistry. Lectures, recitations, and laboratory work. Chemistry 10 is open to students who have taken Chemistry 1. *Mon., Wed., Fri., 8.45. Three hours of laboratory work, to be arranged with the instructor. Counting as nine term hours.*

ASSISTANT PROFESSOR COBB

11. Theoretical and Advanced Inorganic Chemistry. Lectures, recitations, and laboratory work. Chemistry 11 is open to students who have taken Chemistry 1, 2, and 4. *Lectures, Tu., Th., 8.45. Two hours of laboratory work, to be arranged with the instructor. Counting as six term hours.*

ASSISTANT PROFESSOR COBB

12. Discussion of Chemical Subjects and Recent Investigations. *One hour a week.*

PROFESSOR DURKEE AND ASSISTANT PROFESSOR COBB

14. Medical Chemistry. Lectures, quizzes, and laboratory work. (F) *Counting as thirteen term hours.*

PROFESSOR AUSTIN AND DR. THORPE

Chemistry 14 must be preceded by Chemistry 1, 2, and 3. It is given at the Tufts Medical School, 416-430 Huntington Avenue, Boston.

BIOLOGY

PROFESSOR KINGSLEY AND ASSISTANT PROFESSOR LAMBERT

Instruction in biology is given both by lectures and by laboratory work, the object being to impart the scientific method of work and thought rather than to cram the student with a large number of unimportant facts. In the laboratory, eighty hours of work for each half-year is the minimum, but mere time service is not sufficient: a certain series of forms must be studied, to the satisfaction of the instructors.

Biology 1 is intended for those who wish to take but a single year of work in this department. Major students, and candidates for the degree of Bachelor of Science in the General Science

or the Medical Preparatory Course, will take Biology 2 and 3 in its place. Special students, coming for a single year before entering the Medical School, will take Biology 3.

By special arrangement with the instructor, additional work may be done in connection with Biology 2 and 3, and corresponding credit will be given. Intention of doing such work must be indicated at the time of registration, and the student must also attain grade B in order to obtain such credit.

Three of the subjects in this department (4M, 5M, and 9) are given at the Medical School, 416-430 Huntington Avenue, Boston. These subjects may be taken by candidates for the bachelor's degree, and in this way students contemplating the study of medicine may anticipate one year of their professional course. Those who wish these subjects to count for the bachelor's degree must have previously taken at least Biology 3.

There are three well-lighted laboratories, furnished with every requisite for good work, including microscopes, microtomes, reagents, and abundant material for illustration and dissection. There is also a department library containing more than 2,800 volumes and over 6,800 pamphlets and parts of volumes, while the college library contains the proceedings of many learned societies, both American and foreign. Besides these, proximity to Boston and Cambridge gives easy access to library facilities unequaled in any other part of America. There is required from all students taking laboratory subjects a laboratory fee of two-dollars-and-a-half a term for each subject, payable in advance.

SUBJECTS

1. General Biology. Lectures and laboratory work. *Mon., Fri.: lecture, 11.45; laboratory, Mon., Fri., afternoons, 160 hours. Counting as six term hours.* PROFESSOR KINGSLEY AND ASSISTANT PROFESSOR LAMBERT

[2. Morphology of Invertebrates. Lectures and laboratory work. *Tu., Th.: lecture, 4.00; laboratory, Tu., Th., afternoons, 160 hours. Counting as six term hours.* PROFESSOR KINGSLEY]

Biology 2 is given in alternate years. It will be given in 1909-10.

3. Morphology of Vertebrates. Continuation of Biology 2. *Tu.,*

Th.: lecture, 11.45; laboratory, Tu., Th., afternoons, 160 hours. Counting as six term hours.

PROFESSOR KINGSLEY

[4. Elementary Physiology. Lectures, laboratory work, and recitations. Lecture, Mon., Fri., 11.45; laboratory, Mon., Fri., 2.00 to 4.00. (S) Counting as three term hours.

PROFESSOR KINGSLEY]

Biology 4 must be preceded by or accompany Chemistry 1.

4M. Human and Comparative Physiology. Lectures, recitations, conferences, and laboratory work. Counting as thirteen term hours. (S)

PROFESSOR DEARBORN

Biology 4M is given at the Tufts Medical School, Boston.

[5. Normal Histology: a study of the tissues of vertebrates, including microscopical technique. Lecture, Mon., 11.45; laboratory, Mon., Fri., afternoons, 80 hours. (S) Counting as three term hours.

PROFESSOR KINGSLEY]

5M. Histology, Medical. Lectures, quizzes, and laboratory work. Counting as five term hours. (F)

PROFESSOR BATES AND DR. WINSLOW

Biology 5M is given at the Tufts Medical School, Boston.

[6. Systematic Zoology. Laboratory work in the identification and classification of specimens. Counting as three term hours. (F) or (S)

PROFESSOR KINGSLEY]

Biology 6 requires ability to read French and German.

7. Botany. Lectures and laboratory work. Wed., Fri.: lecture, 11.45; laboratory, forenoons or afternoons, 160 hours. Counting as six term hours.

ASSISTANT PROFESSOR LAMBERT

8. Special Work. The investigation of some problem. Three hours or more of credit, at the rate of forty hours of laboratory work for one hour of credit.

PROFESSOR KINGSLEY

Subjects 5 to 8 are intended for both graduates and undergraduates.

9. Human Anatomy. Lectures, quizzes, and dissection. Counting as thirteen terms hours. (F)

PROFESSOR H. H. GERMAIN

Biology 9 is given at the Tufts Medical School, Boston.

GEOLOGY

DR. WARREN AND DR. LOUGHLIN

The subjects offered in the department of Geology have a twofold object: to give an outline of the structure and history

of the earth; and to give a training in the methods of observational science. The first subject (Geology 1) is introductory, open to all, and intended primarily for those who have had no previous work in science. The other subjects are such that certain preliminary studies, stated in connection with each, must be taken before entering upon them.

The illustrative collections in these lines are ample. Besides the exhibition specimens in the Barnum Museum, there is a large working collection illustrating mineralogy, lithology, and dynamical and historical geology. These are supplemented with maps, diagrams, photographs, and lantern slides. The work in each subject consists of lectures and recitations, together with work in the laboratory and in the field. Excursions are taken to neighboring points that illustrate certain phenomena. The laboratory fees are four dollars for each subject in mineralogy.

SUBJECTS

[1. Physiography. Lectures and recitations, laboratory and field work. Lectures, *Tu., Th., 10.45*; laboratory, *Wed., 3.00*; field work, *occasional Sat. afternoons.* (S) *Counting as three term hours.* DR. LOUGHLIN]

2. General Geology. Lectures, two hours a week; laboratory or field work, four hours a week; open to students who have taken Physics 1 and Chemistry 1. *Hours to be arranged. Counting as six term hours.* DR. LOUGHLIN]

[3. Paleontology. Recitations and laboratory work, six hours a week; open to students who have taken Geology 2 and Biology 1. *Counting as three term hours.* (F) or (S) DR. LOUGHLIN]

[4. Field Geology. Conference, one hour; field work, six hours a week; open to students who have taken Geology 2. *First part of first and last part of second half-year. Counting as three term hours.* DR. LOUGHLIN]

MINERALOGY

1. Determinative Mineralogy. Lectures, two hours; laboratory, four hours a week; open to students who have taken Chemistry 1. *Tu., Th., Sat., 10.45 to 12.45.* (F) *Counting as three term hours.* DR. WARREN]

2. Crystallography and Descriptive Mineralogy. Lectures, two hours a week; laboratory work, four hours a week; open to students who have taken Mineralogy 1. *Tu., Th., Sat., 10.45 to 12.45.* (F) *Counting as three term hours.* DR. WARREN]

DRAWING AND ENGINEERING

Subjects in Drawing, and in Civil, Structural, Mechanical, and Electrical Engineering, are open to competent students who are not looking for a technical course. For a list of those subjects, the hours, and the preparation required, consult the Department of Engineering, pages 133 to 146.

MUSIC

PROFESSOR LEWIS

The department of Music offers opportunities to gain a knowledge of musical history and of the principles of composition, as a basis for practical work in music or in musical criticism. The subjects, Elements of Theory, Harmony, General History of Music, and Musical Appreciation may well be taken by students who wish to cultivate their appreciation of music, but have no intention of preparing themselves for professional work in the art.

SUBJECTS

[1. Elements of Theory. Lectures, practice, and analysis, with various text-books for reference. *Tu., Th., 4.00, and a third hour, to be arranged.* (F)

PROFESSOR LEWIS]

Only acquaintance with musical notation and with the piano keyboard is required. Music 1 is introductory to Music 2.

2. Harmony. Lectures and practical work, based on Chadwick's Manual of Harmony; collateral reading on biography and on theory. *Tu., 3.00 to 4.00; Th., 3.00 to 5.00.*

PROFESSOR LEWIS

After 1907-08, Music 2 will be given in the second half-year, as Music 21.

[22. Advanced Harmony. A continuation of Music 21, at the same hours.

PROFESSOR LEWIS

[3. Sight-reading in Song, and Harmonic Analysis. *Tu., Th., 4.00, and a third hour, to be arranged.* (S)

PROFESSOR LEWIS]

Only those who have finished Music 2 may take Music 3. The harmonic analysis begun in Music 2 will be continued, with special attention to the more difficult problems of modern music. Harmonic Analysis, by B. Cutter, and Melodia, by Cole and Lewis, will be used as text-books.

Music 3 will be transferred to Tuesday and Thursday at 2.00, provided program appointments permit.

[4. Counterpoint, Single and Double. Lectures and practical work,

based on the manuals of Goetschius, Spalding, and others; collateral reading on biography and theory. *Three hours, to be arranged.*

PROFESSOR LEWIS]

A thorough theoretical knowledge of harmony, and facility in the harmonization of basses and choral melodies, are required of those who take Music 4. A full equivalent of Music 2 must have been done by students who wish to begin their college work with Music 4. There is a requirement of laboratory work with the automatic instruments.

[5. Fugue, Canon, Musical Form, and the Elements of Orchestration. Lectures and practical work, with various manuals for class use and reference. *Three hours, to be arranged.*

PROFESSOR LEWIS]

Students who elect Music 5 must have attained grade A or B in Music 4, and must have given evidence of talent in melodic invention. Those who are admitted to the class are required to attend certain concerts in Boston as prescribed by the instructor, and to do regular laboratory work with the automatic instruments.

[6. General History of Music, from the earliest times to the present day, with especial attention to the period since the death of Palestrina. Lectures, with various treatises for reference. *Three hours for the second half-year.*

PROFESSOR LEWIS]

Music 6 may be given in 1908-09.

[7. Special studies in Musical History, in Musical Criticism, or in the development of Musical Form. *Three hours a week.* PROFESSOR LEWIS]

An equivalent of the work of Music 4, and an ability to read German and French with facility, are required of students who elect Music 7. The studies may be given in lectures, or may consist of individual work of students under the direction of the instructor.

9. Musical Appreciation, Elementary. Systematic studies in musical form, from the listener's standpoint. *Three hours a week.* (F)

PROFESSOR LEWIS

For Music 9 no technical preparation is requisite, but ability to recognize a melody is presupposed. There will be lecture outlines, and automatic players will be used to assist in demonstration. Outside reading and laboratory study will be required.

10. Musical Appreciation, Intermediate. A continuation of Music 9. *Three hours a week.* (S)

PROFESSOR LEWIS

THE FINE ARTS

PROFESSOR WHITTEMORE

The department of the Fine Arts stands collaterally with litera-

ture and music—offering an opportunity for the study of the history of painting, sculpture, architecture, and the minor arts. The subjects given are open to Sophomores, Juniors, and Seniors.

[1. The History of Greek Art, with an introduction on the Arts of Egypt, Assyria, and Phœnicia. *Mon., Wed., Fri., 9.45.*

PROFESSOR WHITEMORE]

[2. The Fine Arts of the Middle Ages. *Mon., Wed., Fri., 9.45. (F)*

PROFESSOR WHITEMORE]

[3. The Fine Arts of the Renaissance. *Mon., Wed., Fri., 9.45. (S)*

PROFESSOR WHITEMORE]

In 1909-10, Fine Arts 2 and 3 will be given, each as a half-subject.

PHYSICAL TRAINING, 1909

MR. C. B. LEWIS AND DR. MAUD CARVILL

The aim of the department is to secure the interest and participation of the students in such exercises and training as all students need for corrective, hygienic, and recreative purposes.

The objects of the work are a healthy body, erect carriage, self-control, fearlessness, muscular co-ordination, and symmetrical development. These objects are accomplished by regular class exercises in the gymnasium during the winter, by optional work after the class hours, and by out-door work in the fall and spring, when the weather is suitable. Women are required to spend an hour a day, during a part of the year, in out-door exercise.

Physical measurements and strength tests of all students are taken at the beginning and end of the gymnasium course, and also at such other times as seem necessary. These form the basis of comparison of the condition and needs of the student, and determine the character and amount of exercise necessary to overcome marked deficiencies, irregular development, or such deformities as may be benefited by physical exercise. The Freshmen will be given a series of lectures on the hygiene of diet, bathing, exercise, study, and recreation. Students may also receive personal advice with reference to habits of life. Regular exercise,—consisting of calisthenics, Swedish work, Indian club, wand, and dumb-bell drills, and the principles of

heavy gymnastics, — as well as games and in-door and out-door athletics, is required two hours a week, from October to May, of all undergraduate students, for the first two years following entrance. Participation in any one of the organized sports may be substituted for the required work, for the time in which that sport is practiced. The work is optional the remaining years of the course.

The intention of the department is to make physical training of such character that the weakest as well as the strongest can engage in it with profit.

ELECTIVE PHYSICAL TRAINING, 1909

Beginning September, 1909, an advanced course of one year in Physical Training will be offered, for those students who have satisfactorily completed the two years of required work. Three term-hours' credit toward a degree will be given for the course.

The subjects treated will include Theory and Practice. Theory will include hygiene, elementary anatomy, physiology, histology, and prompt aid to the injured; consideration of the systems and phases of gymnastics; methods of teaching, — classification of exercises according to age limit, nomenclature, gradation of exercises; gymnasium management.

Two hours for the first half-year.

Practice will include advanced drills and apparatus work, fencing, methods of defending one's self in case of assault, leadership of class and squad work, supervision of in-door and out-door gymnastic and athletic contests.

Two hours a week for the year.

TABULAR PROGRAM, COLLEGE OF LETTERS

Subjects *not given* this year are bracketed in department statements

Subjects in Roman type occupy three periods

Subjects in *Italic* type occupy two periods ; in **Boldface** type, one period

MONDAY, WEDNESDAY, FRIDAY

	2.00	3.00	4.00	5.00*
LEONARD				
BOLLES				
HARMON		HR F3		HR S2
FAY	Frm w4			
TOUSEY				
KNIGHT				
WOODBIDGE			HR w1	
KINGSLEY	. . Laboratory appointments			sScGer
CUSHMAN				Phl w5, 9
L. R. LEWIS		Frm w5		Mus w4, 5, 7, s6
MAULSBY				Eng s8
DURKEE	. . Laboratory appointments			Chm s65
DENISON				Lat w3, 4
EVANS		Hst F4, 6, s5, 7		Hst wt5
H. G. CHASE	. . Laboratory appointments			Phs s8
METCALF			PIS s7	
WADE	Grk w2			Grk w11
WHITTEMORE				Eng F23, s21
WREN				
LAMBERT	. . Laboratory appointments			
RANSOM				Mth w14
REED				
LOUGHLIN		Geo si W		
ROLLINS	. . Laboratory appointments			
COBB	. . Laboratory appointments			
C. B. LEWIS			Phs Trn	Phs Trn
DAVIS				Ora s1
SHIELDS				Phl F18
				*Hours in this column are subject to re-assignment during the opening week

Courses in Science*

The special courses in Science lead to the degree of Bachelor of Science. Like the Engineering courses, they are placed upon a technical basis, and far less latitude is allowed the student in the choice of subjects than in the course in Arts.

Three courses are provided: the Course in General Science, designed mainly to prepare teachers in science for the secondary schools; the Chemical course, designed to fit the student for the industrial applications of chemistry, and for the advanced study of chemistry; and the Medical Preparatory Course, an introduction to the professional study of medicine. Graduates of the Medical Preparatory Course anticipate one year of the four years of study required at the Tufts Medical School.

The studies of the First Year are alike for all three courses, as follows:—

FIRST YEAR

[Alike for the three courses in science]

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
English	1	61	English	2	61
Mathematics	3	82	Mathematics	1 (or 2)	82
†German	2 (or 3)	64	†German	2 (or 3)	64
Physics	1	84	Physics	1	84
Chemistry	1	86	Chemistry	1	86
Physical Training		93	Physical Training		93

* For entrance requirements to the Courses in Science, see page 39.

† If the equivalent of German 3 is presented for entrance, the language work of the first year will be in French.

GENERAL SCIENCE COURSE

MAJOR INSTRUCTOR, PROFESSOR H. G. CHASE

First Year, alike for all science courses. See page 101

Second Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Biology	2 (or 3)	88	Biology	2 (or 3)	88
Chemistry	2	86	Chemistry	3	86
Physics	3	84	Physics	2	84
Mathematics	4	82	Physics	3	84
Physical Training		93	Mathematics	5	82
			Physical Training		93

At the close of the Second Year the student will be expected to choose Physics, Chemistry, or Biology as a major department, and thereafter his work will be under the direction of the head of the department chosen.

Third Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Chemistry	4	86	Chemistry	4	86
Biology	3 (or 2)	88	Biology	3 (or 2)	88
Geology		90	Geology		90
or, in place of Geology, a subject in			or, in place of Geology, a subject in		
Physics		83	Physics		83
Mathematics, or		82	Mathematics, or		82
Engineering		91	Engineering		91

Also, in the Third Year, six program hours of elective work for each term, of which three hours in each term shall be in language, literature, or mental and moral science (see foot-note, page 71).

Fourth Year

Biology 7 (see page 89); also, three program hours for each term, to be chosen from the group of mental and moral science (see foot-note, page 71); and nine hours of elective work for each term, of which three for each term shall be in language, literature, or mental and moral science.

CHEMICAL COURSE

MAJOR INSTRUCTOR, PROF. F. W. DURKEE

First Year, alike for all science courses. See page 101

Second Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Chemistry	2	86	Chemistry	3	86
Chemistry	4	86	Chemistry	4	86
Physics	3	84	Physics	2	84
German	3	64	Physics	3	84
or French		65	German	3	64
Physical Training		93	or French		65
			Physical Training		93

Third Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Chemistry	5	86	Chemistry	5	86
Chemistry	9	87	Chemistry	7	87
Chemistry	10	87	Chemistry	10	87
Biology	1	88	Biology	1	88
Mineralogy		90	Mineralogy		90

Fourth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Geology		90	Geology		90
Chemistry	11	87	Chemistry	8	87
			Chemistry	11	87

Also, for the Fourth Year, six program hours of free elective for the first term, and three for the second; and three program hours for each term, to be chosen from the group of mental and moral science (see foot-note, page 71).

MEDICAL PREPARATORY COURSE

MAJOR INSTRUCTOR, PROF. J. S. KINGSLEY

First Year, alike for all science courses. See page 101

Second Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Chemistry	2	86	Chemistry	3	86
Biology	2 (or 3)	88	Biology	2 (or 3)	88
Physics	3	84	Physics	3	84
*German	3	64	*German	3	64
or French		65	or French		65
Physical Training		93	Physical Training		93
			One elective, 3 hours		

Third Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
*German	3B	64	*German	3B	64
Philosophy	3	72	Biological German		
Biology	3 (or 2)	88	Biology	3 (or 2)	88
Chemistry	10	87	Chemistry	10	87
One elective, 3 hours			One elective, 3 hours		

Fourth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Biology	9	89	Biology	4M	89
Chemistry	14	87	Biology	5	89
One elective, 3 hours			One elective, 3 hours		

*If the equivalent of German 3 is presented for entrance, German 3B will constitute the language work for the Second Year, thus opening an additional elective in the Third Year.

THE DEPARTMENT OF
ENGINEERING

Faculty of the Department of Engineering

FREDERICK W. HAMILTON, A.M., D.D., LL.D.,	PRESIDENT,	
	8 Professors Row	
GARDNER C. ANTHONY, A.M., Sc.D.,	DEAN	14 Professors Row
	<i>Professor of Technical Drawing. In charge of Mechanical Engineering</i>	
PHILIP M. HAYDEN, A.B.,	SECRETARY	Dean Hall, 6
	<i>Instructor in French</i>	
CHARLES D. BRAY, C.E., A.M.		98 Professors Row
	<i>Professor of Mechanical Engineering, Emeritus</i>	
AMOS E. DOLBEAR, M.E., Ph.D., LL.D.		134 Professors Row
	<i>Professor of Physics, Emeritus</i>	
CHARLES E. FAY, A.M., Litt.D.		92 Professors Row
	<i>Wade Professor of Modern Languages</i>	
WILLIAM L. HOOPER, A.M., Ph.D.		124 Professors Row
	<i>Professor of Electrical Engineering</i>	
FRANK B. SANBORN, C.E., M.S.*		8 Buena Vista Park, Cambridge
	<i>Professor of Civil Engineering</i>	
FRANK W. DURKEE, A.M.		38 Professors Row
	<i>Professor of Inorganic Chemistry</i>	
HENRY C. METCALF, A.B., Ph.D.		352 Commonwealth Ave., Boston
	<i>Jackson Professor of Political Science</i>	
HARRY G. CHASE, B.S.		37 Sawyer Avenue
	<i>Professor of Physics</i>	
FRANK G. WREN, A.M.		65 Talbot Ave.
	<i>Walker Professor of Mathematics</i>	
CHARLES H. CHASE, S.B.		39 Lincoln St., Stoneham
	<i>Professor of Steam Engineering</i>	
EDWARD H. ROCKWELL, S.B.		133 Powder House Boulevard
	<i>Professor of Structural Engineering</i>	

*Absent on leave.

- SAMUEL C. EARLE, A.M. 45 Sawyer Avenue
Professor of English
- WILLIAM R. RANSOM, A.M. 29 Sawyer Avenue
Assistant Professor of Mathematics
- PHILIP HOWARD COBB, A.B., PH.D. 159 College Avenue
Assistant Professor of Organic and Physical Chemistry
- CHARLES E. STEWART, S.B. 32 Dearborn Road
Assistant Professor of Mechanic Arts
- WILLIAM H. REED, JR., A.M. 81 Walnut Ave., Roxbury
Instructor in German
- EDWIN B. ROLLINS, B.S. 38 Capen St.
Instructor in Electrical Engineering
- GEORGE F. ASHLEY 47 Avon St., Somerville
Instructor in Drawing
- JAMES I. TUCKER, B.S. 76 Pearson Road
Instructor in Civil Engineering
- HERBERT MORLEY MORLEY, B.S., M.S. . . . 37 Bromfield Road
Instructor in Physics
- MELVILLE S. MUNRO, B.S. 101 Talbot Avenue
Instructor in Electrical Engineering
- ALLEN VAN RENSSELAER, C.E.
884 Massachusetts Avenue, Cambridge
Instructor in Civil Engineering.
- DAVID W. STRADLING, B.S. . . . 53 Chandler St., W. Somerville
Instructor in Railroad Engineering
- RICHARD C. SMITH, B.S. 42 Dudley St., Medford
Instructor in Structural Engineering
- CARL L. SVENSEN, B. S. . . . 46 Dearborn St., Medford Hillside
Instructor in Mechanical Engineering.
- PERLEY J. BUCHANAN, B.S. Curtis Hall
Instructor in Chemistry
- ALEXANDER DILLINGHAM, A.B.
Instructor in Mathematics 15 Bellevue St., Medford Hillside

HOWARD J. SAVAGE, A.B.	West Hall, 17
<i>Instructor in English</i>	
FRANK E. SEAVEY, A.B.	Lynn
<i>Instructor in English</i>	
W. E. CLARK	10 Fairmount St.
<i>Instructor in Mechanic Arts</i>	
CHARLES B. LEWIS	11 Fairmount St.
<i>Director of the Gymnasium</i>	

COMMITTEE ON PROMOTIONS

Dean Anthony, *Chairman*; Professors Hooper, Durkee, and Ransom,
and Mr. Hayden.

Courses of Instruction

The Department offers courses of four years in CIVIL ENGINEERING, MECHANICAL ENGINEERING, ELECTRICAL ENGINEERING, and CHEMICAL ENGINEERING, each leading to the degree of Bachelor of Science. These courses are arranged to give considerable freedom of election.

While much of the instruction is given in engineering subjects, the first aim of the Department is the development of a broad college training. An effective correlation of the work of the several courses serves to promote a greater degree of unity and to secure an educational result both scientific and cultural.

One hundred and forty* term hours are required for graduation, this being the equivalent of about fifty-two hours of work per week, including the time for recitations, laboratory work, and preparation. The figure following the name of the subject in the tables below represents the number of term hours assigned to that subject.

The subjects of instruction in the Freshman year are alike for all courses, and they differ but little in the Sophomore year. The outline of the course for the Freshman year is given below, and those for the three following years are tabulated under the following heads: Civil Engineering, page 112; Mechanical Engineering, page 115; Electrical Engineering, page 117; Chemical Engineering, page 119. The system of numbering and details of these courses is published on pages 126 to 147. The subjects are printed in their numerical order.

FRESHMAN YEAR

[Alike for all courses.]

FIRST TERM		SECOND TERM			
11-1	English	3	11-2	English	3
	†French or }	3		†French or }	3
	†German }	3		†German }	3
21-1	Drawing	3	21-1	Drawing	2
25-1	Mechanic Arts	2	21-5	Descriptive Geometry	3
29-1	Mathematics	3	25-1	Mechanic Arts	1
29-2	Mathematics	3	29-3	Mathematics	3
	Physical Training	½	31-1	Physics	3
				Physical Training	½

*A term hour signifies one recitation per week requiring about two hours of preparation, or one laboratory period of three hours.

†As the course to be pursued in modern language is dependent on the preparation of each student, definite instruction for the selection thereof is given on pages 129 to 131.

CIVIL ENGINEERING

The first two years of the course in civil engineering include the fundamentals of an engineering education — mathematics, drawing, physics, chemistry, English, and modern languages. The last two years include the elements of general engineering — applied mechanics, railroad engineering, structural engineering, hydraulics, and sanitary engineering. Other studies are available as electives, so that the student has opportunity to specialize somewhat in his Junior and Senior years; but the aim of the course in civil engineering is to provide a general engineering education, broad and comprehensive, which will enable its graduates to advance rapidly in numerous fields of professional work.

In the Senior year an option is offered in structural engineering with the subjects tabulated on the opposite page.

FRESHMAN YEAR—alike for all courses. See page 111.

SOPHOMORE YEAR

FIRST TERM

1-7	Drawing	2
20-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	$\frac{1}{2}$

Electives

11-3	English	2
	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-12	Mechanism	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-2	Surveying	2
	Physical Training	$\frac{1}{2}$

Electives

11-6	English	2
11-8	English	2
	French	3
	German	3
17-1	Spanish	3
25-5	Mechanic Arts	2

CIVIL ENGINEERING

JUNIOR YEAR

FIRST TERM

35-2	Qualitative Analysis	2
41-11	Railroad Surveying	2
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1
45-9	Mechanics Problems	2
51-1	Steam Engine	3

Electives

11-3	English	2
11-9	English	2
17-1	Spanish	3
21-12	Mechanism	2
25-7	Machine Shop	2
	Mathematics	
31-5	Electricity and Magnetism	3
41-61	Contracts and Specifications	1

SECOND TERM

41-13	Railroad Engineering	3
41-43	Hydraulic Measurements	2
45-2	Applied Mechanics	3
47-1	Roofs and Bridges	3
47-5	Structural Design	2

Electives

11-8	English	2
17-1	Spanish	3
	Mathematics	
41-21	Highways	2
41-51	Fire Protection Engineering	2
51-3	Thermodynamics	3
61-3	Dynamo-Electric Machinery	3

SENIOR YEAR

FIRST TERM

41-14	Railroad Engineering	3
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3
81-1	Political Economy	3

Electives

11-3	English	2
11-9	English	2
	Mathematics	
41-31	Geodesy	2
41-95	Civil Engineering Topics	2
47-6	Structural Design	2

SECOND TERM

41-45	Hydraulic Engineering	3
41-99	Thesis	3-5

Electives

	Mathematics	
41-17	Railroads—Economic Location	3
47-2	Theory of Structures	3
47-9	Bridge Design	2
61-3	Dynamo-Electric Machinery	3
81-5	Political Economy	3
81-16	Political Economy	3

SENIOR YEAR OPTION.—STRUCTURAL ENGINEERING

FIRST TERM

41-14	Railroad Engineering	3
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3
47-6	Structural Design	2
81-1	Political Economy	3

Electives

11-3	English	2
11-9	English	2
	Mathematics	
41-31	Geodesy	2
41-95	Civil Engineering Topics	2

SECOND TERM

41-45	Hydraulic Engineering	3
47-2	Theory of Structures	3
47-9	Bridge Design	2
47-99	Thesis	3-5

Electives

	Mathematics	
41-17	Railroads—Economic Location	3
81-16	Political Economy	3

MECHANICAL ENGINEERING

The course of instruction in mechanical engineering relates particularly to machinery,—its design, construction, and operation. The first two years are devoted to the preparatory studies common to all engineering courses, and include mathematics, physics, chemistry, drawing, and language, all of which have an important bearing upon the successful pursuit of the more technical subjects. Technical drawing and descriptive geometry receive much attention during the first year, and are more completely developed in the advanced work in mechanism and design.

In the last two years the technical work of the course is developed. It includes mechanics, both theoretical and applied, chemical analysis, and the properties of engineering materials, particularly iron and steel. The laboratory practice includes work in the physical, chemical, electrical, mechanical, and steam-engineering laboratories. In machine design each student prepares complete working drawings of some machine, or part of a machine. Shop work is carried through five terms, and includes carpentry, wood-turning, moulding, pattern making, forging, hand and machine tool-work.

The systematic study of steam and its application occupies a considerable part of the Junior and Senior years. The principles involved in the generation and application of power, the management of boilers and engines, the setting of valves and use of the indicator, are carefully considered. This is followed by work in thermodynamics, including the mechanical theory of heat and the properties of steam and gases. Steam engineering includes the study of the steam engine, compound and multiple expansion, and boilers of various types; determination of proportions for developing a required power; computation of sizes required for strength and endurance; the effect and balance of reciprocating parts, and the various types of valve motions. Engine and boiler testing constitute an important part of this course.

MECHANICAL ENGINEERING

FRESHMAN YEAR—alike for all courses. See page 111.

SOPHOMORE YEAR**FIRST TERM**

21-7	Drawing	2
29-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	½

Electives

11-3	English	2
	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-11	Mechanism	2
25-5	Mechanic Arts	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
	Physical Training	½

Electives

11-6	English	2
11-8	English	2
	French	3
	German	3
17-1	Spanish	3
41-2	Surveying	2

JUNIOR YEAR**FIRST TERM**

21-12	Mechanism	2
25-7	Mechanic Arts	2
31-5	Electricity and Magnetism	3
35-2	Qualitative Analysis	2
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1
51-1	Steam Engine	3

Electives

11-3	English	2
11-9	English	2
17-1	Spanish	3
	Mathematics	
31-6	Electrical Laboratory	2
41-61	Contracts and Specifications	1
45-9	Mechanics Problems	2

SECOND TERM

21-21	Machine Design	2
25-9	Mechanic Arts	2
29-6	Mathematics	2
45-2	Applied Mechanics	3
51-3	Thermodynamics	3
51-21	Engineering Laboratory	2

Electives

11-8	English	2
17-1	Spanish	2
	Mathematics	
47-1	Roofs and Bridges	3
47-5	Structural Design	2
61-1	Electrical Laboratory	2
61-3	Dynamo-Electric Machinery	3

SENIOR YEAR**FIRST TERM**

21-22	Machine Design	2
51-5	Valve Gears	2
51-7	Steam Engineering	3
51-22	Engineering Laboratory	2
81-1	Political Economy	3

Electives

11-3	English	2
11-9	English	2
	Mathematics	
45-3	Structural Mechanics	3
51-05	Mechanical Engineering Topics	2
61-5	Alternating Current Machinery	3
61-9	Dynamo Design	2

SECOND TERM

41-45	Hydraulic Engineering	3
51-9	Steam Engineering	3
51-23	Engineering Laboratory	2
51-99	Thesis	3-5

Electives

	Mathematics	
41-51	Fire Protection Engineering	2
61-3	Dynamo-Electric Machinery	3
61-6	Alternating Current Machinery	3
61-13	Magnetism	3
81-5	Political Economy	3

ELECTRICAL ENGINEERING

The aim of the course in electrical engineering is to fit men to deal intelligently with electrical problems likely to be presented to the practical engineer.

With this end in view, mathematics and drawing are pursued through nearly the entire course, while physics and mechanics, both theoretical and applied, are continued during the greater part of the first three years. The purely electrical work extends over the Junior and Senior years of the course, the Junior year being devoted to the more elementary theory, and the practice of the simpler tests and measurements. During the Senior year more than one-half of the time is given to recitations and lectures on the more advanced theory, supplemented by practical work in the laboratory.

The calibration and standardization of electrical instruments receive due attention. The magnetic properties of irons, armature reactions in dynamos, the efficiency of electrical machinery, and the location of losses are carefully studied. The theory of shunts and the Wheatstone bridge leads to the consideration of the distribution of current and potential in a network of conductors.

Much time is given to design and construction. Most students during their course construct or assist in the construction of some piece of electrical machinery of commercial dimensions.

The theory of alternating currents, both single and polyphase, is fully developed; and the many important practical problems thus evolved are carefully treated, both by numerical computation and by graphic representation.

A few weeks are devoted to the study of Maxwell's theory and its experimental confirmation by Hertz.

ELECTRICAL ENGINEERING

FRESHMAN YEAR—alike for all courses. See page 111.

SOPHOMORE YEAR**FIRST TERM**

21-7	Drawing	2
29-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	½

Electives

11-3	English	2
	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-11	Mechanism	2
25-5	Mechanic Arts	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
	Physical Training	½

Electives

11-6	English	2
11-8	English	2
	French	3
	German	3
17-1	Spanish	3
41-2	Surveying	2

JUNIOR YEAR**FIRST TERM**

21-12	Mechanism	2
31-5	Electricity and Magnetism	3
31-6	Electrical Laboratory	2
35-2	Qualitative Analysis	2
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1
51-1	Steam Engine	3

Electives

11-3	English	2
11-9	English	2
17-1	Spanish	3
25-7	Mechanic Arts	2
	Mathematics	

SECOND TERM

21-21	Machine Design	2
29-6	Mathematics	2
45-2	Applied Mechanics	3
61-1	Electrical Laboratory	2
61-3	Dynamo-Electric Machinery	3

Electives

11-8	English	2
17-1	Spanish	3
	Mathematics	
47-1	Roofs and Bridges	3
47-5	Structural Design	2
51-3	Thermodynamics	3
61-13	Magnetism	3

SENIOR YEAR**FIRST TERM**

61-5	Alternating Current Machinery	3
61-7	Electrical Laboratory	2
61-9	Dynamo Design	2
61-11	Alternating Currents	3
81-1	Political Economy	3

Electives

11-3	English	2
11-9	English	2
21-22	Machine Design	2
	Mathematics	
35-9	Gas Analysis	1
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3

SECOND TERM

41-45	Hydraulic Engineering	3
61-6	Alternating Current Machinery	3
61-7	Electrical Laboratory	2
61-99	Thesis	3 5

Electives

	Mathematics	
47-2	Theory of Structures	3
61-13	Magnetism	3
61-15	Electrical Engineering	3
61-17	Telegraphic Engineering	3
61-95	Electrical Topics	3
81-5	Political Economy	3
81-16	Political Economy	3

CHEMICAL ENGINEERING

The course in chemical engineering covers a period of four years, and leads to the degree of Bachelor of Science in Chemical Engineering.

The subjects in this course have been arranged to give the training in mathematics, physics, chemistry, and mechanical and electrical engineering that will assist the graduates of the department in solving the mechanical, electrical and chemical problems that present themselves when chemistry is applied in practical ways. Subjects intended for general training, the greater part of the pure mathematics, and the less technical engineering subjects have purposely been introduced early in the course. This arrangement allows much time for the study of subjects in chemistry and advanced engineering in the last two years. The mathematical, physical, and general engineering subjects, as well as subjects that are intended for general culture, correspond, for the most part, to those of the course in mechanical and electrical engineering.

In chemistry the subjects are numerous enough to train the student thoroughly in theoretical and descriptive inorganic and organic chemistry, to give him a working knowledge of the different branches of chemical analysis, and to make him familiar with many of the practical applications of chemistry. The chemical and engineering subjects are taught, so far as it is possible, in the laboratories, and excursions are made from time to time to plants where technical chemical operations are performed.

Young men who graduate from the course in chemical engineering find employment in constructing and operating plants where chemistry is applied commercially, such as gas-works, dye-works, bleacheries, paper and pulp mills, acid and alkali manufactories.

CHEMICAL ENGINEERING

FRESHMAN YEAR—alike for all courses. See page 111.

SOPHOMORE YEAR

FIRST TERM

21-7	Machine Drawing	2
29-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	½

Electives

11-3	English	2
	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-11	Mechanism	2
25-5	Mechanic Arts	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
	Physical Training	½

Electives

11-6	English	2
11-8	English	2
	French	3
	German	3
17-1	Spanish	3
41-2	Surveying	2

JUNIOR YEAR

FIRST TERM

31-5	Electricity and Magnetism	3
35-2	Qualitative Analysis	2
35-4	Quantitative Analysis	3
35-10	Organic Chemistry	4
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1

Electives

11-3	English	2
11-9	English	2
17-1	Spanish	3
21-12	Mechanism	2
25-7	Mechanic Arts	2
	Mathematics	
41-61	Contracts and Specifications	1

SECOND TERM

35-3	Qualitative Analysis	2
35-4	Quantitative Analysis	3
35-10	Organic Chemistry	4
45-2	Applied Mechanics	3
61-3	Dynamo-Electric Machinery	3

Electives

11-8	English	2
17-1	Spanish	3
	Mathematics	
47-1	Roofs and Bridges	3
47-5	Structural Design	2

SENIOR YEAR

FIRST TERM

35-5	Quantitative Analysis	3
35-9	Gas Analysis	1
35-15	Applied Chemistry	2
51-1	Steam Engine	3
73-1	Mineralogy	3
81-1	Political Economy	3

Electives

11-3	English	2
11-9	English	2
25-7	Machine Shop	2
	Mathematics	
35-11	Theoretical and Advanced Inorganic Chemistry	3
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3
	Geology	3

SECOND TERM

35-5	Quantitative Analysis	3
35-7	Fire Assay	2
35-8	Metallurgy	2
35-15	Applied Chemistry	2
35-99	Thesis	3-5

Electives

	Mathematics	
35-11	Theoretical and Advanced Inorganic Chemistry	3
41-45	Hydraulic Engineering	3
47-2	Theory of Structures	3
47-5	Structural Design	2
51-21	Engineering Laboratory	2
	Geology	3

TABULAR PROGRAM, **FIRST** HALF-YEARThe suffixed *a*, *b*, *c*, *d*, signify divisions

MONDAY

	8:45	9:45	10:45	11:45	2 to 5
SENIOR	81-1 PlEc	51-1 StEn 61-5 El	45-3 StrMch	41-14 REn 51-95 METp 61-11 El	35-5 Chem 41-11 RSv 51-5 VG 61-7 ElLb
JUNIOR	35-10 Chem 45-1a ApMch 51-1b StEn	45-1b ApMch 51-1a StEn	25-7a MSh 17-1 Spn	25-7a MSh 11-3 Eng 41-61 CS	35-4 Chem 45-12a MchLb
SOPH	21-7b MDwg 31-4a PhsLb 41-1b Sv	21-7b MDwg 31-4a PhsLb 41-1b Sv	13-3 Fr 17-1 Sp 31-4a PhsLb 41-1b Sv	11-3 Eng	41-1c Sv
FRESH	21-1b Dwg 29-2d Math	13-1 Fr 21-1b Dwg 15-1 Ger	21-1b Dwg	29-2a Math 29-2b Math 29-2c Math	21-1a Dwg 25-1c Sh

WEDNESDAY

SENIOR	81-1 PlEc	51-1 StEn 61-5 El	35-15 Chem 45-3 StrMch	41-14 REn 61-11 El	35-5 Chem 61-9 DyDn
JUNIOR	35-10 Chem 45-1a ApMch 51-1b StEn	45-1b ApMch 51-1a StEn	25-7a MSh 17-1 Sp	25-7a MSh 45-9 MchPr	41-95 } 2 to 3 51-95 } 45-12b MchLb 41-11b RSv
SOPH	21-7b MDwg 31-4a PhsLb 41-1b Sv	21-7b MDwg 31-4a PhsLb 41-1b Sv	13-3 Fr 17-1 Sp 31-4a PhsLb 41-1b Sv	35-1a,b Chem	35-1a Chem
FRESH	21-1b Dwg 25-1a Sh 29-2d Math	13-1 Fr 21-1b Dwg 25-1a Sh 15-1 Ger	21-1b Dwg 25-1a Sh	29-2a Math 29-2b Math 29-2c Math	21-1a Dwg 25-1c Sh

FRIDAY

SENIOR	81-1 PlEc	51-1 StEn 61-5 El	35-15 Chem 45-3 StrMch	41-14 REn 51-95 METp 61-11 El	35-5 Chem 41-11 RSv 51-5 VG 61-7 ElLb
JUNIOR	35-10 Chem 45-1a ApMch 51-1b StEn	45-1b ApMch 51-1a StEn	25-7a MSh 17-1 Sp 11-3 Eng	25-7a MSh 45-9 MchPr	35-4 Chem 45-12c MchLb
SOPH	21-7b MDwg 41-1d Sv	21-7b MDwg 41-1d Sv	13-3 Fr 17-1 Sp 11-3 Eng 41-1d Sv	35-1a,b Chem	35-1b Chem
FRESH	21-1b Dwg 29-2d Math	13-1 Fr 21-1b Dwg 15-1 Ger	21-1b Dwg	29-2a Math 29-2b Math 29-2c Math	21-1a Dwg 21-1c Dwg 25-1b Sh

TABULAR PROGRAM, **FIRST** HALF-YEARThe suffixed *a*, *b*, *c*, *d*, signify divisions

TUESDAY

	8:45	9:45	10:45	11:45	2 to 5
SENIOR	35-11 Chem 41-41 SyEn 51-7 StEn	51-22 EnLb	41-95 CETp 51-22 EnLb	51-22 EnLb	21-22 MDn 35-11 Chem 47-6 StrDn
JUNIOR	31-5a ElMg 31-5b ElMg	31-6a ElLb 35-2b Chem 41-11a RSv	31-6a ElLb 35-2b Chem 41-11a RSv	31-6a ElLb 35-2b Chem 41-11a RSv	35-10 Chem 31-6b ElLb 35-2a Chem
SOPH	15-3 Ger 21-7a MDwg	21-7a MDwg 29-4c Math	31-3a Phs 31-3b Phs	31-3c Phs 29-4a Math 29-4b Math	31-4b,c PhsLb 41-1a Sv
FRESH	13-2b Fr 29-1a Math 29-1c Math	13-1 Fr 11-1c Eng 29-1b Math	13-2a Fr 15-2 Ger 29-1d Math	11-1a Eng	21-1c Dwg 25-1b Sh

THURSDAY

SENIOR	35-11 Chem 41-41 SyEn 51-7 StEn	51-22 EnLb	41-95 CETp 51-22 EnLb	51-22 EnLb	21-22 MDn 47-6 StrDn
JUNIOR	31-5a ElMg 31-5b ElMg	25-7b MSh 31-6a ElLb 35-2b Chem 41-11a RSv	25-7b MSh 31-6a ElLb 35-2b Chem 41-11a RSv	25-7b MSh 31-6a ElLb 35-2b Chem 41-11a RSv	31-6b ElLb 35-2a Chem
SOPH	15-3 Ger 21-7a MDwg	21-7a MDwg 29-4c Math	31-3a Phs 31-3b Phs	31-3c Phs 29-4a Math 29-4c Math	31-4b,c PhsLb 41-1a Sv
FRESH	13-2b Fr 29-1a Math 29-1c Math	13-1 Fr 29-1b Math	13-2a Fr 15-2 Ger 29-1d Math	11-1b Eng	21-1c Dwg 25-1a Sh

SATURDAY

SENIOR	41-41 SyEn 51-7 StEn	61-9 DyDn	61-9 DyDn	61-9 DyDn	
JUNIOR	31-5a ElMg 31-5b ElMg	25-7b MSh 35-4 Chem 41-11b RSv	25-7b MSh 35-4 Chem 41-11b RSv	25-7b MSh 35-4 Chem 41-11b RSv	
SOPH	15-3 Ger 21-7a MDwg	21-7a MDwg 29-4c Math	31-3a Phs 31-3b Phs	31-3c Phs 29-4a Math 29-4b Math	
FRESH	13-2b Fr 29-1a Math 29-1c Math	29-1b Math	13-2a Fr 15-2 Ger 29-1d Math	11-1a,b,c, Eng	

TABULAR PROGRAM, SECOND HALF-YEAR

The suffixed *a*, *b*, *c*, *d*, signify divisions

MONDAY

	8:45	9:45	10:45	11:45	2 to 5
FRESH SOPH JUNIOR SENIOR	35-10 Chem	41-45 Hyd	41-17 RE n	61-95 ElTp	35-5 Chem 47-9 BrDn
	61-15 ElEn				61-7 ElLb
	45-2a ApMch	45-2b ApMch 51-3 Thdy	17-1 Sp 61-13 Mag	29-6 Math 47-1 RfBr	21-21a MDn 51-21 EnLb 41-43 HydM 35-4 Chem
	31-4a PhsLb	31-4a PhsLb	13-4 Fr 17-1 Sp 31-4a PhsLb	25-5a,b,c FSh	25-5b FSh 31-4c PhsLb 41-2a Sv
FRESH	29-3a Math	13-1 Fr 15-1 Ger	29-3c Math 29-3d Math	29-3b Math	21-1a Dwg
	21-5a DsGm	21-5c DsGm			
	21-5b DsGm	21-5d DsGm			

WEDNESDAY

FRESH SOPH JUNIOR SENIOR	35-10 Chem 35-15 Chem 61-15 ElEn	41-45 Hyd	35-8 Chem 41-17 RE n	61-95 ElTp	35-5 Chem 47-9 BrDn 51-23 Enlb
	45-2a ApMch	45-2b ApMch 51-3 Thdy	17-1 Spn 61-13 Mag	29-6 Math 47-1 RfBr	21-21b MDn 35-10 Chem 41-21 Hghs
	31-4a PhsLb 41-2b Sv	31-4a PhsLb 41-2b Sv	13-4 Fr 17-1 Sp 31-4a PhsLb 41-2b Sv	35-1a,b Chem	35-1a Chem 31-4c PhsLb
	29-3a Math	13-1 Fr 15-1 Ger	29-3c Math 29-3d Math	29-3b Math	21-1a Dwg 25-1b PSh
FRESH	21-5a DsGm	21-5c DsGm			
	21-5b DsGm	21-5d DsGm			

FRIDAY

FRESH SOPH JUNIOR SENIOR	35-10 Chem 35-15 Chem 61-15 ElEn	41-45 Hyd	35-8 Chem 41-17 RE n	61-95 ElTp	35-5 Chem 51-23 EnLb 61-7 ElLb
	45-2a ApMch	45-2b ApMch 51-3 Thdy	17-1 Sp 61-13 Mag	47-1 RfBr	21-21b MDn 41-43 HydM 35-4 Chem
	25-5c FSh 41-2b Sv	25-5c FSh 41-2b Sv	13-4 Fr 17-1 Sp 25-5c FSh 41-2b Sv	35-1a,b Chem	35-1a Chem
	29-3a Math	13-1 Fr 15-1 Ger	29-3c Math 29-3d Math	29-3b Math	41-2a Sv
FRESH	21-5a DsGm	21-5c DsGm			25-1c PSh
	21-5b DsGm	21-5d DsGm			

TABULAR PROGRAM, SECOND HALF-YEAR

The suffixed *a*, *b*, *c*, *d* signify divisions

TUESDAY

	8:45	9:45	10:45	11:45	2 to 5
SENIOR	35-11 Chem 47-2 ThSt 81-5 PlEc	51-9 StEn 81-16 PlEc	61-6 El		35-11 Chem
JUNIOR	61-3 DEM		51-21 EnLb 61-1a ElLb	51-21 EnLb 41-51 FPEn 61-1a ElLb	35-3 Chem 47-5 StrDn 61-1b ElLb
SOPH	15-4 Ger 29-5a Math 29-5b Math	11-6 Eng 29-5c Math 29-5d Math	21-11a Mchm	21-11b Mchm	25-5a FSh 31-4b PhsLb 41-2c Sv
FRESH	11-2a Eng 13-2b Fr		11-2c Eng 13-2a Fr 15-2 Ger	31-1 Phs	21-1b Dw

THURSDAY

SENIOR	35-11 Chem 47-2 ThSt 81-5 PlEc	51-9 StEn 81-16 PlEc	61-6 El		
JUNIOR	61-3 DEM	25-9 MSh 41-13 REEn 61-1a ElLb	25-9 MSh 41-51 FPEn 61-1a ElLb	25-9 MSh 41-51 FPEn 61-1a ElLb	35-3 Chem 47-5 StrDn 61-1b ElLb
SOPH	11-8 Eng 15-4 Ger 29-5a Math 29-5b Math	11-6 Eng 29-5c Math 29-5d Math	21-11a Mchm	21-11b Mchm	31-4b PhsLb 41-2c Sv
FRESH	13-2b Fr	13-1 Fr	11-2b Eng 13-2a Fr 15-2 Ger	31-1 Phs	21-1b Dwg 25-1a PSh

SATURDAY

SENIOR	47-2 ThSt 81-5 PlEc	51-9 StEn 81-16 PlEc	61-6 El		
JUNIOR	61-3 DEM	21-21a MDn 25-9 MSh 41-13 REEn 35-4 Chem	21-21a MDn 25-9 MSh 41-21 Hghs 35-4 Chem	21-21a MDn 25-9 MSh 35-4 Chem	
SOPH	11-8 Eng 15-4 Ger 29-5a Math 29-5b Math	11-6 Eng 29-5c Math 29-5d Math			
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Departments of Instruction

11 ENGLISH

The aim of the department of English is, first, to teach the student to think accurately and to give adequate written and spoken expression to his own experience; second, to broaden his outlook.

In addition to the class work, papers in other subjects will also be examined by the instructors in English, as a test of the student's ability to express himself correctly and clearly; and theses, as far as possible, will be subject to criticism by the instructors in English before they are finally accepted by the department for which they are written.

11-1 English. A study of the elemental forms of literary and scientific writing: description, exposition, directions, criticism, argument, and narration, with the ultimate aim of helping the student to think for himself. Reading of illustrative literature. *Three periods a week: one lecture, one recitation, and one ten-minute conference.*

First term. Three term hours.

PROFESSOR EARLE, MR. SAVAGE, and MR. SEAVEY

11-2 English. A study of actual problems in literary expression. Reading of standard English literature. *Two periods a week: one recitation and one ten-minute conference. Preparation, 11-1.*

Second term. Three term hours.

PROFESSOR EARLE, MR. SAVAGE, and MR. SEAVEY

11-3 English. An advanced subject in general composition, including the writing of daily themes and of fortnightly arguments. *Three periods a week: two recitations and one ten-minute conference. Preparation, 11-2.*

First term. Two term hours. PROFESSOR EARLE and MR. SEAVEY

11-6 English. A brief survey of English literature and history, aiming to broaden the student's appreciation of what he may get from books, and to suggest ways in which the past throws light on the problems of the present. *Four periods a week: three lectures and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours. PROFESSOR EARLE and MR. SEAVEY

11-8 English. A detailed study of the most important problems of technical writing. *Three periods a week: two recitations and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours. PROFESSOR EARLE and MR. SEAVEY

11-9 English. An advanced subject in technical composition. No class meetings; each student writes papers from ten to fifty pages in length under the individual direction of the instructor. The subjects are taken, as far as possible, from technical work previously done by the student outside of college, or from special research. *One thirty-minute conference a week. Preparation, 11-8.*

First term. Two term hours.

PROFESSOR EARLE

MODERN LANGUAGES

Students who have fulfilled the entrance requirement in foreign language are required to pursue in the Freshman year a course in a modern language under the following conditions:

Those receiving credit in an ancient language only will enter French 13-1, and will be required to take French 13-2 in the Sophomore year.

Those receiving elementary credit in French or German only will continue that language during the Freshman year.

Those receiving credit for advanced French or German only may continue the language offered for one year, or begin the other, but in the latter case they will be required to continue it during the Sophomore year.

Those receiving elementary credit in both French and German may continue either language during the Freshman year.

Those receiving advanced credit in one language, and elementary credit in the other, may continue either for one year. They are recommended to select that in which elementary credit only is received. Those who receive advanced credit in French, and elementary credit in German, may, with the consent of the department, take Spanish in the Freshman year.

Those receiving elementary and advanced credit in both languages may take either for one year, or each for a half-year; or Spanish, with the consent of the department.

Extra Credit. *Any student receiving credits in language, not needed for entrance, to the extent of two units, may apply, not later than the end of the Sophomore year, for an additional credit toward his degree of three term hours, which will be granted if his work has been satisfactory to the department.

*Any student receiving credits in language, not needed for entrance, to the extent of six units (or four, consisting of Advanced French and Advanced German), may apply, not later than the end of the Sophomore year, for an additional credit toward his degree of six term hours, which will be granted if his work has been satisfactory to the department. These students may be excused from language work at mid-year, when in the judgment of the promotions committee the adjustment of their program makes it desirable; they will then receive three hours credit for the work of the first term, and six hours additional credit.

*Any student receiving credits in language, not needed for entrance, to the extent of eight units, including one advanced modern language, may apply, not later than the end of the Sophomore year, for an additional credit toward his degree of nine term hours, which will be granted if his work has been satisfactory to the department. These students may be excused from language at mid-year, when in the judgment of the promotions committee the adjustment of their program makes it desirable; they will then receive three hours credit for the work of the first term, and nine hours additional credit.

But in no case shall a student count more than eighteen term hours in foreign language towards his degree.

Any student of other national language than English who may be a candidate for admission, and who is able to speak French, German, Spanish, Italian, or Portuguese, will be given credit for this ability as an equivalent for the entrance requirement in Modern Language.

He may also offer it as a substitute for the regular modern

* Principals and prospective students are informed that college credit for work done in the secondary school is given only upon examination, or after the student has satisfactorily continued the subject in College.

language requirement for the degree of S.B. in Engineering, under the following conditions:

(1) That he shall have attained the ability to express himself fluently, and with a sufficient degree of accuracy, in English; that he shall have passed the required subjects in English, and one elective in English composition.

(2) That he shall have passed a special examination in the language for which he is to receive credit.

Tabular View of Modern Language Requirements

Case 1 outlines the course of students entering without modern language; cases 2 to 7, of those having one elementary modern language; cases 8 to 17, one advanced modern language; 18 to 22, two elementary modern languages; 23 to 34, one advanced and one elementary modern language; and cases 35 to 38, two advanced modern languages

<i>Case</i>	<i>Language in Primary Group</i>	<i>Secondary Group</i>	<i>Extra-entrance credits in language</i>	<i>Take in College</i>
1	El. Lat.	6 points without language		Fr. 13-1 in Freshman year Fr. 13-2 in Sophomore year
2	El. Fr.	6 points without language		Fr. 13-2 in Freshman year
3	El. Ger.	6 points without language		Ger. 15-2 in Freshman year
4	El. Fr.	El. Lat.		Fr. 13-2 in Freshman year
5	El. Ger.	El. Lat.		Ger. 15-2 in Freshman year
6	El. Fr.	6 points without language	El. Lat. 6	Fr. 13-2. Six term hours additional credit if grade is satisfactory
7	El. Ger.	6 points without language	El. Lat. 6	Ger. 15-2. Six term hours additional credit if grade is satisfactory
8	El. Fr.	Adv. Fr.		Fr. 13-3 and 13-4; or Ger. 15-1, which must, however, be followed by 15-2 in Sophomore year
9	El. Ger.	Adv. Ger.		Ger. 15-3 or Fr. 13-1, which must, however, be followed by 13-2 in Sophomore year
10	El. Fr.	6 points without language	Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-1, which must, however, be followed by 15-2 in Sophomore year. Three term hours additional credit if grade is satisfactory
11	El. Ger.	6 points without language	Adv. Ger. 2	Ger. 15-3; or Fr. 13-1, which must, however, be followed by 13-2 in Sophomore year. Three term hours additional credit if grade is satisfactory
12	El. Fr.	El. Lat.	Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-1, which must, however, be followed by 15-2 in Sophomore year. Three term hours additional credit if grade is satisfactory

<i>Case</i>	<i>Language in Primary Group</i>	<i>Secondary Group</i>	<i>Extra entrance credits in language</i>	<i>Take in College</i>
13	El. Ger.	El. Lat.	Adv. Ger. 2	Ger. 15-3; or Fr. 13-1, which must, however, be followed by 13-2 in Sophomore year. Three term hours additional credit if grade is satisfactory
14	El. Fr.	Adv. Fr.	El. Lat. 6	Fr. 13-3 and 13-4; or Ger. 15-1, which must, however, be followed by 15-2 in Sophomore year. Six term hours additional credit if grade is satisfactory
15	El. Ger.	Adv. Ger.	El. Lat. 6	Ger. 15-3; or Fr. 13-1, which must, however, be followed by 13-2 in Sophomore year. Six term hours additional credit if grade is satisfactory
16	El. Fr.	6 points without language	El. Lat. 6 Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-1, which must, however, be followed by 15-2 in Sophomore year. Nine term hours additional credit if grade is satisfactory
17	El. Ger.	6 points without language	El. Lat. 6 Adv. Ger. 2	Ger. 15-3; or Fr. 13-1, which must, however, be followed by 13-2 in Sophomore year. Nine term hours additional credit if grade is satisfactory
18	El. Fr.	El. Ger.		Fr. 13-2 or Ger. 15-2
19	El. Fr.	6 points without language	El. Ger. 4	Fr. 13-2 or Ger. 15-2. Three term hours additional credit if grade is satisfactory
20	El. Fr.	El. Lat.	El. Ger. 4	Fr. 13-2 or Ger. 15-2. Three term hours additional credit if grade is satisfactory
21	El. Fr.	El. Ger.	El. Lat. 6	Fr. 13-2 or Ger. 15-2. Six term hours additional credit if grade is satisfactory
22	El. Fr.	6 points without language	El. Ger. 4 El. Lat. 6	Fr. 13-2 or Ger. 15-2. Nine term hours additional credit if grade is satisfactory
23	El. Fr.	El. Ger. 4 Adv. Fr. 2		Fr. 13-3 and 13-4; or Ger. 15-2: latter recommended*
24	El. Fr.	El. Ger. 4 Adv. Ger. 2		Ger. 15-3 or Fr. 13-2; latter recommended
25	El. Fr.	El. Ger.	Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-2: latter recommended.* Three term hours additional credit if grade is satisfactory
26	El. Fr.	El. Ger.	Adv. Ger. 2	Ger. 15-3 or Fr. 13-2; latter recommended. Three term hours additional credit if grade is satisfactory
27	El. Fr.	El. Ger.	El. Lat. 6 Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-2: latter recommended.* Nine term hours additional credit if grade is satisfactory
28	El. Fr.	El. Ger.	El. Lat. 6 Adv. Ger. 2	Ger. 15-3 or Fr. 13-2; latter recommended. Nine term hours additional credit if grade is satisfactory

*Or Spanish, with the consent of the department.

<i>Case</i>	<i>Language in Primary Group</i>	<i>Secondary Group</i>	<i>Extra entrance credits in language</i>	<i>Take in College</i>
29	El. Fr.	El. Lat.	El. Ger. 4 Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-2: latter recommended.* Six term hours additional credit if grade is satisfactory
30	El. Fr.	El. Lat.	El. Ger. 4 Adv. Ger. 2	Ger. 15-3 or Fr. 13-2; latter recommended. Six term hours additional credit if grade is satisfactory
31	El. Fr.	6 points without language	El. Ger. 4 Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-2: latter recommended.* Six term hours additional credit if grade is satisfactory
32	El. Fr.	6 points without language	El. Ger. 4 Adv. Ger. 2	Ger. 15-3 or Fr. 13-2; latter recommended. Six term hours additional credit if grade is satisfactory
33	El. Fr.	6 points without language	El. Lat. 6 El. Ger. 4 Adv. Fr. 2	Fr. 13-3 and 13-4; or Ger. 15-2: latter recommended.* Nine term hours additional credit if grade is satisfactory
34	El. Fr.	6 points without language	El. Lat. 6 El. Ger. 4 Adv. Ger. 2	Ger. 15-3 or Fr. 13-2; latter recommended. Nine term hours additional credit if grade is satisfactory
35	El. Fr.	El. Ger. Adv. Fr.	Adv. Ger. 2	Either language for one year, or each for one-half year.* Three hours additional credit if grade is satisfactory
36	El. Fr.	El. Ger.	Adv. Ger. 2 Adv. Fr. 2	Either language for one year, or each for one-half year.* Six term hours additional credit if grade is satisfactory
37	El. Fr.	El. Ger.	El. Lat. 6 Adv. Ger. 2 Adv. Fr. 2	Either language for one year, or each for one-half year.* Nine term hours additional credit if grade is satisfactory
38	El. Fr.	El. Lat.	El. Ger. 4 Adv. Fr. 2 Adv. Ger. 2	Either language for one year, or each for one-half year.* Nine term hours additional credit if grade is satisfactory

Advanced Latin, or elementary or advanced Greek, may be counted in the above schedule for the proper number of units, when the result is not inconsistent with other provisions concerning modern language. Cases not provided for above will be decided in accordance with the procedure therein established.

13 FRENCH

The aim of the work in French is the acquisition of a knowledge of the language not only for its educational value in general but for its bearing on the students's mother tongue. The scientific reading is chosen, as far as possible, for its direct application to technical subjects which are being studied at the same time. Care and accuracy in translation are emphasized. Although no extensive attempt is made to give the student a

* Or Spanish with the consent of the department.

ready speaking knowledge of the language, he is trained to understand it when spoken. Careful attention is paid to pronunciation, and to the acquisition of a vocabulary of every-day expressions and idioms which will enable him, in case of foreign residence, to acquire rapidly a correct and fluent command of the spoken tongue. Students are encouraged to do outside reading for their own pleasure, in addition to the classroom requirements. The college Library contains a large assortment of representative works suited for this purpose.

13-1 French. Elementary course. The essentials of grammar, with composition; Grandgent's Grammar; a French Reader; reading of short works of modern authors in prose and verse. Open to Freshmen whose entrance language is Latin, Greek, or Advanced German. It must be followed by 13-2 in the Sophomore year. *First term, five recitations a week; second term, four recitations a week.*

First and second terms. Six term hours.

MR. HAYDEN

13-2 French. Reading of modern fiction, and scientific works related to the technical and scientific studies of the Freshman year. Review of grammatical principles; vocabulary practice. *Preparation, elementary entrance credit in French, or 13-1. Three recitations a week.*

First and second terms. Six term hours.

MR. HAYDEN

13-3 French. Selected works of the nineteenth century; scientific reading; composition; conversation. *Preparation, advanced entrance credit in French, or 13-2. Three recitations a week.*

First term. Three term hours.

MR. HAYDEN

13-4 French. Reading of selected types of French literature; composition; conversation. *Preparation, 13-2 or its equivalent. Three recitations a week.*

Second term. Three term hours.

MR. HAYDEN

15 GERMAN

The aim and scope of the work in German are in general the same as in French, and the student is referred to the statement of that department.

15-1 German. Elementary course. The essentials of grammar; reading of modern prose; dictation and composition. Open to Freshmen who have received credit in Advanced French for admission. It must be followed by 15-2 in the Sophomore year. *Three recitations a week.*

First and second terms. Six term hours.

MR. REED

15-2 German. Review of grammatical principles, especially with reference to syntax. Reading of modern works, including one work dealing with a scientific subject. Dictation and composition. *Three recitations a week. Preparation 15-1 or Elementary German for admission.*

First and second terms. Six term hours.

MR. REED

15-3 German. The rapid reading of modern prose in contemporary authors. *Preparation, 15-2 or advanced German for admission. Three recitations a week.*

First term. Three term hours.

PROFESSOR FAY

15-4 German. Introduction to the classic authors: Lessing, Minna von Barnhelm; Schiller, Die Jungfrau von Orleans; Goethe, Hermann and Dorothea. *Preparation, 15-2. Three recitations a week.*

Second term. Three term hours.

PROFESSOR FAY

17 SPANISH

The aim of the single subject offered in Spanish is to enable the student to read without serious difficulty ordinary Spanish prose. Due attention is paid to the essentials of grammar as a means to this end, and to pronunciation. Simple English sentences are translated into Spanish. The importance of French as a preparation for this subject is emphasized.

17-1 Spanish. Elementary course. The essentials of grammar; reading of modern prose. Practice in writing Spanish. Open to those who have received a mark of C or higher in a subject in modern language, and have studied French or Latin. Freshmen with considerable entrance credit in language may, with the consent of the instructor, elect this subject (see page 127). *Three recitations a week.*

First and second terms. Six term hours.

MR. REED

21 DRAWING

The department of Drawing aims to give a broad and exact training in the language of graphics; to teach the principles of its construction, its technique, and the art of expression by this medium. It is designed to give the student such practice as shall enable him to use this language with fluency whenever and wherever it may serve better than a written or spoken language. The work of the department also includes practice in the use of graphics for the solution of problems relating to the theory of mechanism and its application to machine design.

21-1 Drawing. The course in Freshman Drawing comprises exercises in the proper use and care of drafting tools; numerous problems in geometrical construction; a thorough study of the principles of orthographic projection, freehand and mechanical perspective, isometric solids. Considerable time is devoted to the freehand sketching of simple parts of machinery and the careful completion of drawings from these sketches. Throughout the course special attention is given to lettering and the composition of titles. *First term, three periods a week; three hours each. Second term, two periods a week; three hours each.*

First and second terms. Five term hours.

MR. ASHLEY

21-5 Descriptive Geometry is taught by recitations and the solution of a great number of problems. The problems are designed to correlate theory and practice. *Three recitations a week. Simultaneous with 21-1.*

Second term. Three term hours. MR. ASHLEY AND MR. SVENSEN

21-7 Drawing. A study of the technique of graphic expression and its application in giving complete and accurate information to the constructor. Detailed and assembly drawings are made from freehand sketches and other data, but nothing in the nature of a copy is permitted. The work is conducted according to the methods of progressive draftsmen, the greatest emphasis being laid on completeness and accuracy in the use of graphic language. *Two periods a week of two hours each. Preparation, 21-1.*

First term. Two term hours.

PROFESSOR ANTHONY AND MR. SVENSEN

21-11 Mechanism. An introductory course, conducted mainly by graphical methods, and dealing with the fundamental laws governing the velocity ratio and paths of mechanical movements and their application to velocity diagrams, simple types of gearing, and other modes of transmission. *Two recitations a week, or two periods of two hours drafting. Preparation, 21-1. Simultaneous with 31-3.*

Second term. Two term hours.

PROFESSOR ANTHONY

21-12 Mechanism. Advanced course, mathematical and graphical, dealing with the application of the principles of mechanism to various types of gearing and valve gears, together with the study of the more important application to modern machine tool and appliance. *Two recitations a week, or two periods of two hours drafting. Preparation, 21-11.*

First term. Two term hours.

PROFESSOR ANTHONY

21-21 Machine Design. The solution of simple problems in design, involving only the elementary principles of applied mechanics but requiring careful thought and close observation. A systematic training of the

judgment is made of first importance. *Preparation, 21-7, 21-11, and 45-1. Two periods a week; three hours each.*

Second term. Two term hours.

PROFESSOR ANTHONY AND MR. SVENSEN

21-22 Machine Design. A continuation of 21-21 but necessitating a more complete consideration of the design of one representative type of machine. *Preparation, 21-21 and 45-2. Two periods a week; three hours each.*

First term. Two term hours.

PROFESSOR ANTHONY AND MR. SVENSEN

25 MECHANIC ARTS

Work in the shops is designed to give a practical knowledge of mechanical processes and of materials of construction. Instruction in hand and machine tool-work is given, following a graded series of exercises having in view the formation of habits of precision and the development of judgment essential to the engineer.

The work in this department maintains a close relation with the courses in drawing and design, much of the work in design being carried to completion in the shops from drawings prepared in the drafting-room. It is required of all engineering students during the Freshman year.

25-1 Pattern Making. Practice is given in the use of bench wood-working tools and the wood-turning lathe for the construction of simple patterns from working drawings. The principles and methods of foundry practice are taught at the same time. The course for the second term includes the construction of more complicated patterns and core-boxes, and the consideration of special problems involving the relation of pattern making to general engineering work. Visits are made to the shops of manufacturing plants. *First term, two periods a week; three hours each. Second term, one three-hour period.*

First and second terms. Three term hours.

ASSISTANT PROFESSOR STEWART AND MR. CLARK

25-5 Forging. A short course in bending, drawing, upsetting, forming, and welding iron, and tool dressing, together with text-book work and recitations on the production of iron and steel. A study of their uses and value in engineering work. Visits are made to steel-producing plants. *Two periods a week; one three-hour period and one lecture.*

Second term. Two term hours.

ASSISTANT PROFESSOR STEWART AND MR. CLARK

25-7 Hand and Machine Tools. A short course is given in work at the vise, followed by lathe work, which includes straight and taper turning and fitting, chucking, boring, reaming, and thread cutting; also drilling and planing, shaper and milling-machine work. *Two periods a week; three hours each.*

First term. Two term hours.

ASSISTANT PROFESSOR STEWART

25-9 Machine Tools. Further instruction in lathe work on steel and brass, the use of the boring mill, hardening and grinding, and the elements of tool making. The study of shop problems by visits to manufacturing plants. Instruction is also given in the use of tools and fittings in piping. *Two periods a week; three hours each.*

Second term. Two term hours.

ASSISTANT PROFESSOR STEWART

29 MATHEMATICS

The instruction in mathematics is arranged so that fundamental principles of trigonometry, analytics, and calculus may come as early as possible in the course, the more advanced parts of each subject being introduced later. A review of algebra runs through the first year in appropriate connection with topics in the other subjects. The prescribed work continues to the end of the Sophomore year, double time being given to mathematics in the first term of the Freshman year. Seniors and Juniors may elect higher courses in the College of Letters.

29-1 Trigonometry and Algebra. Methods of calculation; solution of triangles; use of logarithms and the slide rule; reduction of expressions involving radicals and trigonometric functions; combinations and probability. *Simultaneous with 29-2. Three hours a week.*

First term. Three term hours.

ASSISTANT PROFESSOR RANSOM AND MR. DILLINGHAM

29-2 Analytical Geometry and Algebra. Graphical representation; simultaneous equations; quadratics; the straight line, circle, ellipse, and hyperbola; locus problems. *Simultaneous with 29-1. Three hours a week.*

First term. Three term hours.

ASSISTANT PROFESSOR RANSOM AND MR. DILLINGHAM

29-3 Elementary Calculus. Differentiation and integration of algebraic functions; problems in tangents, rates, maxima and minima, areas, centers of gravity, etc.; logarithmic and trigonometric functions. *Three hours a week. Preparation, 29-1 and 29-2.*

Second term. Three term hours.

ASSISTANT PROFESSOR RANSOM AND MR. DILLINGHAM

29-4 Intermediate Calculus. Drill in differentiation and integration; applications; trigonometric identities and equations. *Three hours a week. Preparation, 29-3.*

First term. Three term hours.

ASSISTANT PROFESSOR RANSOM, MR. DILLINGHAM, AND MR. MORLEY

29-5 Advanced Calculus. Expansions; indeterminate forms; multiple integration; spherical trigonometry; introduction to differential equations. *Three hours a week. Preparation, 29-4.*

Second term. Three term hours.

ASSISTANT PROFESSOR RANSOM AND MR. DILLINGHAM

29-6 Differential Equations. Equations of the first order and first degree in two, and in three or more variables; linear differential equations with constant coefficients; applications. This course will not be given after 1909, its place being then taken by 29-10. (Mathematics 10 of the College of Letters.) *Two hours a week. Preparation, 29-5.*

Second term. Two term hours.

ASSISTANT PROFESSOR RANSOM

31 PHYSICS

This science is presented, not as a series of detached subjects, but as a consistent body of doctrine in which mechanical principles hold throughout, from which all the various phenomena are deducible. In each branch there are frequent returns to these first principles.

In the laboratory, students are given a syllabus of the work for a guide. This syllabus is supplemented by Glazebrook's Physical Optics; Kaulrausch's Measurements; Stewart and Gee's Practical Physics, vols. 1 and 2; Glazebrook and Shaw's Practical Physics; Nichol's Laboratory Manual, vols. 1 and 2; and Watson's Practical Physics. In addition to the experimental and note-book work, many problems are solved.

31-1 Mechanics and Sound. This is introductory to all other subjects offered by the department. *Three periods a week, lectures and recitations.*

Second term. Three term hours.

PROFESSOR H. G. CHASE, PROFESSOR HOOPER,
MR. ROLLINS, AND MR. MORLEY

31-2 Electricity and Magnetism, and Light. *Three periods a week, lectures and recitations.*

First term. Three term hours.

PROFESSOR H. G. CHASE, PROFESSOR HOOPER
MR. ROLLINS, AND MR. MORLEY

31-3 Mechanics and Heat. *Three periods a week.*

Second term. (First term in 1908-1909.) Three term hours.

PROFESSOR H. G. CHASE AND MR. MORLEY

31-4 Physical Laboratory. *Two periods a week; three hours each.*

First and second terms. Four term hours.

PROFESSOR H. G. CHASE, ASSISTANT PROFESSOR RANSOM,
MR. ROLLINS, AND MR. MORLEY

31-5 Electricity and Magnetism. Elementary mathematical treatment. *Three periods a week.*

First term. Three term hours.

PROFESSOR H. G. CHASE AND PROFESSOR HOOPER

31-6 Electrical Laboratory. Measurements. *Two periods a week; three hours each.*

First term. Two term hours.

MR. ROLLINS AND MR. MUNRO

35 CHEMISTRY

35-1 General Inorganic Chemistry. An introductory course in theoretical and descriptive inorganic chemistry, with a thorough consideration of the simplest carbon compounds and principal technical processes. *Three periods a week, two lectures, one three hour laboratory period with conferences.*

First and second terms. Six term hours.

PROFESSOR DURKEE, ASSISTANT PROFESSOR COBB, AND ASSISTANTS

35-2 Qualitative Analysis for the detection of the metals, a course which includes the experimental development of schemes for the division of the metals into groups, the separation and detection of the metals in each group,—a study of all the chemical changes and analytical details, together with the correct analysis of six known solutions and thirteen unknown. *Two periods a week, three hours each of laboratory work and conference. Six lectures.*

First term. Two term hours.

PROFESSOR DURKEE AND ASSISTANTS

35-3 Qualitative Analysis, Advanced, dealing with methods to effect solution of solids, the detection of mineral and common organic acids, the complete analysis of inorganic solids, including mixtures of salts, minerals, alloys, and slags. Three known and thirteen unknown solutions are required, and thorough study of the chemical changes and conditions involved in the analyses. *Two periods a week, three hours each of laboratory work and conference.*

Second term. Two term hours.

PROFESSOR DURKEE AND ASSISTANT

35-4 Qualitative Analysis. Theory and practice of gravimetric and volumetric analysis, including the determination of chlorine by the ordi-

nary and Gooch crucible methods, iron and sulphur in furous ammonium sulphate, silica in a silicate, phosphorus in a phosphate, complete analysis of dolomite, and brass, preparation of strictly half-normal sodium hydroxide and hydro-chloric acid solution, the volumetric analyses of soda ash and oxalic acid, the analysis of iron ore by the dichromate and permanganate methods, determination of chromium in chromite, of antimony by the iodine method, and silver by the sulpho-cyanate method. *Three periods a week, three hours each of laboratory work and conference.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-5 Quantitative Analysis. Technical. Work varied somewhat to meet the needs of individual students. Course ordinarily comprises proximate analysis of coal, nitrogen in coal, Kjeldahl's method, complete analysis of boiler scale, mineral and sanitary analysis of water, determination of copper in ores by iodine and cyanide methods, of zinc by ferro-cyanide method, complete analysis of Babbitt metal, determination of lead in ores, and manganese, sulphur, phosphorus, silicon and carbon in iron and steel. *Three periods a week, three hours each of laboratory work and conference.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-7 Fire Assay. A course which deals with the theory and practice of sampling and assaying gold and silver ores. *Two periods a week, three hours each, laboratory work and conference.*

Second term. Two term hours.

PROFESSOR DURKEE

35-8 Metallurgy of Iron and Steel. Considered largely from the chemical side, and including the study of ores, fluxes, fuels, furnaces, and the other mechanical devices used in the commercial production of pig iron, wrought iron, and steel, together with the solution theory of iron and steel, heat treatment of steel, and production of malleable cast iron. *Two periods a week, one hour each. Lectures and recitations.*

Second term. Two term hours.

PROFESSOR DURKEE

35-9 Technical Gas Analysis, by the Ocsah, Elliott, and Hempel systems. *One period a week, of three hours.*

First term. One term hour.

PROFESSOR DURKEE AND ASSISTANT

35-10 Organic Chemistry. This course consists of lectures, recitations, and laboratory work. It is intended to familiarize the student with the typical compounds of carbon and their more important derivatives. The work in the laboratory includes the preparation of certain of the more important substances referred to in the lectures; the identification of certain classes of compounds; and organic analysis. *Four periods a week, three lectures, one three-hour laboratory period.*

First and second terms. Nine term hours.

ASSISTANT PROFESSOR COBB

35-11 Theoretical and Advanced Inorganic Chemistry. The subject matter of this course consists largely of the principles usually included under the head of Physical Chemistry. A part of the year is set aside for the consideration of inorganic material which is not included in the elementary course. The work in the laboratory includes both physical chemical measurements and the preparation of inorganic compounds. *Three periods a week, two lectures, one two-hour laboratory period.*

First and second terms. Six term hours. ASSISTANT PROFESSOR COBB

35-15 Applied Chemistry. A course dealing with the most important applications of inorganic and organic chemistry to manufacturing purposes, such as the production of sulphuric acid, soda, illuminating gas, and sugar. *Two periods a week. Lectures, visits to plants, text-book work, and recitations.*

First and second terms. Four term hours. PROFESSOR DURKEE

35-99 Chemical Engineering Thesis. The development of a Chemical Engineering problem by extended personal research.

Second term. Three to five term hours.

PROFESSOR DURKEE AND ASSISTANT PROFESSOR COBB

41 CIVIL ENGINEERING

41-1 Surveying. Field practice with transit and level, training in the use of equipment, and duties of a survey party. Neat and systematic field notes are required. Area computation, problems in dividing land, resurveys, and plotting are treated under office work. The field work occupies about three-fifths of the course. Practical and business-like methods are required throughout the course. *Two three-hour periods a week.*

First term. Two term hours.

MR. TUCKER, MR. STRADLING, AND PROFESSOR SANBORN

41-2 Surveying. A course in general surveying methods, covering the elements of topographical surveying and drawing, practice with stadia, plane table, and triangulation transit, and making adjustments of transit and level. The planimeter and level trier are analyzed and applied. Volumes, extensive practice in contours, and the figuring and staking of a few simple Railroad curves, lead to Railroad Surveying. *Two periods a week; three hours each.*

Second term. Two term hours. MR. TUCKER AND MR. STRADLING

41-11 Railroad Surveying. Field practice in locating a short line of railroad through rough country near the college. Surveys for the improvement or reconstruction of existing railroads. Office work on plans, profiles, estimates and reports. *Two periods a week; three hours each. Preparation, 41-2.*

First term. Two term hours.

MR. STRADLING

41-13 Railroad Engineering. Lectures and recitations on the construction of steam and electric railroads; the railroad engineering features of track elevation, subways, tunnels, roundhouses, repair shops, water and coaling stations. *Three periods a week; one hour each. Preparation, 41-11.*
Second term. Three term hours. MR. STRADLING

41-14 Railroad Engineering. Lectures and recitations concerning maintenance of railroads; discussions on track materials and track work, frogs and switches, yard layouts, maintenance of way standards, equipment and tools. *Three periods a week; one hour each. Preparation, 41-13.*
First term. Three term hours. MR. STRADLING

41-17 Railroad Engineering Economics. Lectures and recitations on the economic principles of railroad location and operations; discussions on grade and alignment revisions, double-tracking and general improvements. *Three periods a week; one hour each. Preparation, 41-14.*
Second term. Three term hours. MR. STRADLING

41-21 Highways and Cements. The underlying principles of road and street location, and typical pavement constructions are discussed, with modern problems of maintenance. Tests of wearing and cementing qualities of traps, abrasion or "rattler" test of paving bricks, and the common laboratory tests of Portland cements are made, and the proportions of concrete studied. *Two periods a week; one recitation and three hours laboratory.*
Second term. Two term hours. MR. TUCKER

41-31 Geodesy. The determination of a true meridian, accurate measurement of a base line, of angles in a triangulation system, and the adjustment of observations by the method of least squares. *Two periods a week; three hours each. Preparation, 41-11.*
First term. Two term hours. ——— ———

41-41 Sanitary Engineering. The elements of sanitary science, water and its purification, and the disposal of sewage and garbage. *Three recitations a week.*
First term. Three term hours. PROFESSOR SANBORN

41-43 Hydraulic Measurements. A laboratory and field course in hydraulics and hydrography; experiments with contracted and submerged weirs, piezometers, Pitot tubes, mercury columns, standard nozzles, turbine and disc meters, duplex pump, and gaging of river or canal by rod floats and current meter. *Two three-hour periods a week.*
Second term. Two term hours. PROFESSOR SANBORN

41-45 Hydraulic Engineering. A course dealing with water-shed areas canals, penstocks, water-powers, wheels, and turbines. *Three recitations a week.*
Second term. Three term hours. PROFESSOR SANBORN

41-51 Fire Protection Engineering considers water-works, systems of piping, elevated tanks and stand pipes, fire streams, hydrants, pumps, automatic sprinklers, steam fire-engines, joisted and slow-burning construction of buildings, general order and neatness of industrial plants as affecting fire hazards. *Two periods a week; one recitation and one three-hour period.*

Second term. Two term hours.

PROFESSOR SANBORN

41-61 Contracts and Specifications. The proper interpretation of contracts and specifications from the legal and engineering point of view. *One recitation a week.*

First term. One term hour.

PROFESSOR SANBORN

41-95 Civil Engineering Topics. Each student is required to present three topics from the Proceedings of the American Society of Civil Engineers. The presentation must be in the form of a lecture, brief reference notes being permitted. Each student is required to participate in class discussion. *Two periods a week; one hour each — 10 minutes for review, 25 for speaker, 15 for class discussion. Preparation, Junior Civil Engineering courses.*

First term. Two term hours.

PROFESSOR SANBORN

41-99 Civil Engineering Thesis. A single topic is developed by extended research, design, or experimentation.

Second term. Three to five term hours.

PROFESSOR SANBORN

45 APPLIED MECHANICS

45-1 Applied Mechanics. This is a consideration of the principles of the strength of materials, relating to beams, columns and shafts, and is essentially a mathematical treatment. In the development, the following subjects are treated in detail: centre of gravity; moment of inertia; the laws of elasticity; coefficients of elasticity; relations between stress and strain; pure stresses, as tension, compression, and shear; elastic limits, working stresses and ultimate resistances of wrought iron, steel, timber, and concrete; reactions and bending moments of beams; bending moment and shear diagrams; theory of flexure. It includes also the design and construction of steel and timber beams, columns, and shafts, and the design of plate girders. *Three periods a week; recitations and lectures with numerous problems. Preparation, 29-5 and 31-4.*

First term. Three term hours.

PROFESSOR ROCKWELL AND MR. SMITH

45-2 Applied Mechanics. A continuation of the subjects treated in 45-1. In addition, an introduction to the methods of graphic statics, and a brief treatment of the principles of mechanics involved in reinforced concrete construction are given. *Three periods a week; recitations and lectures with problems. Preparation, 45-1.*

Second term. Three term hours.

PROFESSOR ROCKWELL AND MR. SMITH

45-3 Structural Mechanics. A treatment of the mechanics of masonry structures, including their design and construction. The subjects treated are retaining walls, abutments, masonry arches, chimneys, dams, and masonry foundations. A large part of the course is devoted to design in reinforced concrete structures. *Three periods a week; recitations and lectures with problems and designs. Preparation, 45-2.*

First term. Three-term hours.

PROFESSOR ROCKWELL

45-9 Mechanics-Problems. Mechanics-problems adapted from actual examples as found in engineering practice. *Two recitations a week. Preparation, 31-3.*

First term. Two term hours.

PROFESSOR SANBORN

45-12 Applied Mechanics Laboratory. This course deals with the resistance of the materials of construction, and comprises the testing of cast iron, steel, wrought iron, timber, and concrete in tension, compression, and shear, and the determination of the elastic limits, ultimate strengths, and coefficients of elasticity of these materials. *One period a week; three hours. Simultaneous with 45-1.*

First term. One term hour. PROFESSOR ROCKWELL AND MR. SMITH

47 STRUCTURAL ENGINEERING

47-1 Roofs and Bridges. A study of the different methods, algebraic and graphical, for the determination of stresses in simple framed structures. A large part of the course is devoted to the stresses in bridge trusses in use at the present time, such as the Pratt, Warren, and Baltimore trusses with parallel chords, and modifications of these, with curved chords. Some attention is also given to forms that have been used in the past, as the Whipple and lattice trusses. *Three periods a week; lectures and recitations, with problems. Preparation, 45-1. Simultaneous with 45-2.*

Second term. Three term hours.

PROFESSOR ROCKWELL

47-2 Theory of Structures. An advanced course in the theory of structures, both steel and masonry. It deals with draw-bridges, cantilevers, suspension bridges, and the elastic arch. *Three periods a week; lectures and recitations, with problems. Preparation, 47-1 and 45-3.*

Second term. Three term hours.

PROFESSOR ROCKWELL

47-5 Structural Design. An introductory course in the design of framed structures. It consists of the complete designs of a steel roof truss and a plate girder bridge, with the necessary shop drawings. *Two periods a week; three hours each. Simultaneous with 45-2.*

Second term. Two term hours.

PROFESSOR ROCKWELL AND MR. SMITH

47-6 Structural Design. The design of a steel mill building and some

structure of reinforced concrete; the details being worked out as completely as time permits. *Two periods a week; three hours each. Preparation, 47-5. Simultaneous with 45-3.*

First term. Two term hours.

PROFESSOR ROCKWELL

47-9 Bridge Design. A course in the design of riveted and pin connected steel bridges, with details of the distinctive features of each, as large compression and tension members, theory of latticing, large riveted connections, pin connections, splices, wind bracing, portal framing, and floor beam connections. *Two periods a week; three hours each. Preparation, 47-1 and 47-6.*

Second term. Two term hours.

PROFESSOR ROCKWELL

47-99 Structural Engineering Thesis. A single topic is developed by extended research, design, or experimentation.

Second term. Three to five term hours.

PROFESSOR ROCKWELL

51 MECHANICAL ENGINEERING

51-1 Steam Engine. A general course, considering the fundamental principles involved in the generation of steam and its use in the steam engine. The theory of the indicator is taught and applied in the making of simple tests. *Three periods a week; lecture or recitation. Preparation, 21-11.*

First term. Three term hours.

PROFESSOR C. H. CHASE

51-3 Thermodynamics. This course is devoted to the thermodynamics of the steam engine and other heat engines, and includes a study of the properties of steam and gas as used in steam engines, turbines, and gas engines; also the working fluids and saturated vapors used in refrigeration. The object of the course is to teach the application of the principles to actual conditions. *Three recitations a week. Preparation, 51-1.*

Second term. Three term hours.

PROFESSOR C. H. CHASE

51-5 Valve Gears. A study of the principal types of valve gears, including the plain slide valve, swinging eccentrics, link motions, radial gears, double valve gears, and releasing mechanisms. *Two periods a week; one hour recitation and three hours drafting. Preparation, 51-1.*

First term. Two term hours.

PROFESSOR C. H. CHASE

51-7 Engine Design. The design of steam and gas engines, involving the strength and proportion of parts, the stresses set up, and the condition for static and dynamic equilibrium. *Three periods a week; two recitations and three hours drafting. Preparation, 51-5, or simultaneous with 51-5.*

First term. Three term hours.

PROFESSOR C. H. CHASE

51-9 Steam Engineering. A study of steam and gas power plant equipment. Boiler construction and design, including calculations for one type

of boiler. Pumps, heaters, condensers; arrangement of piping; chimneys, mechanical draft; mechanical stoking, coal handling. Power gas generation; suction and pressure types of apparatus; operation of the plant. *Three hours a week; lecture and recitation. Preparation, 51-7.*

Second term. Three term hours.

PROFESSOR C. H. CHASE

51-21 Steam Engineering Laboratory. The determination of the clearance of engines; valve setting on plain slide valve, riding cutoff, and Corliss engines. Gage testing; the adjustment and use of indicators; testing indicator springs; the use of several types of steam calorimeters. The results of all laboratory work are submitted in the form of carefully written reports. *Two periods a week; three hours each. Preparation, 51-1. Simultaneous with 51-3.*

Second term. Two term hours.

PROFESSOR C. H. CHASE

51-22 Steam Engineering Laboratory. Tests on riding cutoff, shaft governor, and Corliss engines, and on a four-cycle gas engine using gas or gasoline; use of the Alden and Prony brakes; injector tests; flow of steam through orifices, analysis of chimney gases; condenser tests. *Two periods a week; three hours each. Preparation, 51-21.*

First term. Two term hours.

PROFESSOR C. H. CHASE

51-23 Steam Engineering Laboratory. Tests on a horizontal return fire tubular boiler; determination of the velocity of steam through ports; coefficients of friction with different oils; test on a 16 x 8 x 9 duplex steam pump, test at 2000 K.W. power station, and other tests which may be arranged. *Two three-hour periods a week. Laboratory work. Preparation, 51-22.*

Second term. Two term hours.

PROFESSOR C. H. CHASE

51-95 Mechanical Engineering Topics. A course of lectures by students. Each member of the course chooses three topics from the proceedings of the American Society of Mechanical Engineers. The subjects are presented to the class in the form of lectures, followed by discussion and criticism. *Two periods a week. Preparation, Junior Mechanical Engineering courses.*

First term. Two term hours.

PROFESSOR ANTHONY

51-99. Mechanical Engineering Thesis. An essay based on extended personal research, design, or experimentation.

Second term. Three to five term hours.

PROFESSOR ANTHONY AND PROFESSOR C. H. CHASE

61 ELECTRICAL ENGINEERING

The aim of the work in this department is to fit men to deal intelligently with electrical problems likely to be presented to

the practical engineer. With this in view, principles rather than details are emphasized, and these principles are developed and fixed by the free use of concrete problems as well as by laboratory experiments and tests.

61-1 Electrical Laboratory. An introduction to electrical testing, including the calibration of instruments, the study of arc and incandescent lamps, the storage battery, and the magnetic properties of iron. In the latter part of the term some of the more elementary dynamo tests are undertaken. *Two periods a week; three hours each. Preparation, 31-6.*

Second term. Two term hours.

MR. ROLLINS AND MR. MUNRO

61-3 Dynamo Electric Machinery. An elementary course dealing with the fundamental principles of dynamo electric machinery and their application in the construction and operation of direct current generators and motors. *Three recitations a week. Preparation, 31-5.*

Second term. Three term hours.

PROFESSOR HOOPER

61-5 Alternating Current Machinery. A course treating of the theory, construction, and operation of synchronous alternators. *Three recitations a week. Preparation, 61-1.*

First term. Three term hours.

PROFESSOR HOOPER

61-6 Alternating Current Machinery. A continuation of 61-5, treating of the synchronous convertor, transformer, induction motor, and commutating motors. *Three recitations a week. Preparation, 61-5.*

Second term. Three term hours.

PROFESSOR HOOPER

61-7 Dynamo Laboratory. Advanced, direct, and alternating dynamo testing. *Two periods a week; three hours each. Preparation, 61-1 and 61-3. Simultaneous with 61-5.*

First and second terms. Four term hours.

MR. ROLLINS AND MR. MUNRO

61-9 Dynamo Design. A course on the practical design of direct current machinery. *Two periods a week; three hours each. Preparation, 61-1.*

First term. Three term hours.

MR. MUNRO

61-11 Alternating Currents. The mathematical development of equations and formulas from elementary electrical principles, and the physical interpretation of the equations and formulas thus developed. *Three periods a week. Preparation, 31-5 and 29-10.*

First term. Three term hours.

PROFESSOR HOOPER

61-13 Magnetism. An advanced course in the Theory of Magnetism, with problems. *Three recitations a week. Preparation, 31-5.*

Second term. Three term hours.

MR. MUNRO

61-15 Electrical Engineering. A course dealing with the production, transmission, distribution, and utilization of electrical power. *Three recitations a week, with solution of assigned problems. Preparation, 61-5 and 61-7.*
Second term. Three term hours. PROFESSOR HOOPER

61-17 Telegraph Engineering. A course on the design and operation of telegraph and telephone instruments, lines, cables, and stations. *Three periods a week. Preparation, 31-5 and 31-6.*
Second term. Three term hours. MR. ROLLINS

61-95 Electrical Topics. Lectures by students on electrical subjects, followed by discussion and criticism. *Three periods a week. Preparation, 61-5.*
Second term. Three term hours. PROFESSOR HOOPER

61-99 Thesis. An essay based on some construction, design, or investigation.
Second term. Three to five term hours.

PROFESSOR HOOPER, MR. ROLLINS, AND MR. MUNRO

81 POLITICAL ECONOMY

81-1 Elements of Economics. Designed especially for students of engineering, aims at a systematic and comprehensive study of the elements of economics, and comprises work in some of the more important problems of modern industrial society. Exposition of the fundamental principles of the production, distribution, exchange, and consumption of wealth. *Three recitations a week.*

First term. Three term hours. PROFESSOR METCALF

81-5 Money, Credit, and Banking. An historical course, with special reference to the financial experience of the United States. Leading topics are Hamilton's financial system; protection and revenue tariffs; the bank question; the fiscal policy of the Civil War; resumption of specie payments; the national banking system; State and local taxation; silver legislation and the panic of 1893; government loans; present currency problems. Dewey's financial History of the United States is used as a guide. *Three recitations a week. Preparation, 81-21.*

Second term. Three term hours. PROFESSOR METCALF

81-16 Modern Labor Problems. This subject deals mainly with the social and economic problems arising from the relations of employers and their laborers. The chief topics will be the growth, methods, and aims of modern associations of wage earners; methods of conciliation and arbitration; strike and factory legislation; employers' liability and recent compensation acts; compulsory publicity; provident institutions and friendly societies. Each member of the class will be expected to make a report upon a labor union. *Lectures and recitations. Three recitations a week. Preparation, 81-21.*

Second term. Three term hours. PROFESSOR METCALF

A. B. AND B. S. IN FIVE YEARS

Provision has been made, for such students as are prepared to enter upon the course leading to A.B. (see pages 40 to 54), to secure the degrees of Bachelor of Arts and Bachelor of Science in five years.

In order to obtain both degrees at the end of five years, Freshmen should enter with one unit of credit in Solid Geometry, under the Secondary Group (pages 39, 49).

The work in College would then be distributed as follows:—

Freshman Program

First half-year:—

	TERM HOURS
Mathematics 29-1	3
Mathematics 29-2	3
English 1	3
Two languages	6
Physical Training	

Second half-year:—

	TERM HOURS
Mathematics 29-3	3
Physics 31-1	3
English 2	3
Two languages	6

Sophomore Program

First half-year:—

	TERM HOURS
A third language	3
Drawing 21-1	3
Physics 31-2	3
Mathematics 29-4	3
History 1	3
Physical Training	

Second half-year:—

	TERM HOURS
A third language	3
Drawing 21-1	2
Physics 31-3	3
Mathematics 29-5	3
History 1	3

The Junior year will be the same as the Sophomore year of the Engineering Department, substituting Philosophy 3, with 4 or 5, and Mechanic Arts 25-1, and Descriptive Geometry 21-5, for Mathematics 29-4 and 5, and Physics 31-2 and 3.

The last two years will be the same as the Junior and Senior years in the course in Engineering.

For the explanation of the subject numbers above, see pages 60 to 84 and pages 134 to 138 of this catalogue.

Further information concerning the Department of Engineering will be found in a special pamphlet, to be obtained by addressing Dean Anthony, Tufts College, Mass.

THE GRADUATE
DEPARTMENT

Faculty of the Graduate Department

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT

J. STERLING KINGSLEY, Sc.D., DEAN
Professor of Biology

PHILIP M. HAYDEN, A.B., SECRETARY

CHARLES E. FAY, A.M., Litt.D.
Wade Professor of Modern Languages

WILLIAM L. HOOPER, A.M., Ph.D.
Professor of Electrical Engineering

ARTHUR E. AUSTIN, A.B., M.D.
Professor of Medical Chemistry

DAVID L. MAULSBY, A.M.
Professor of English Literature

FRANK W. DURKEE, A.M.
Professor of Chemistry

GEORGE VAN NESS DEARBORN, A.M., Ph.D., M.D.
Professor of Physiology

WILLIAM K. DENISON, A.M.
Professor of the Latin Language and Literature

LAWRENCE B. EVANS, Ph.D.
Professor of History

HENRY C. METCALF, Ph.D.
Jackson Professor of Political Science

CHARLES ST. CLAIR WADE, A.M.
Professor of the Greek Language and Literature

FRANK G. WREN, A.M.
Walker Professor of Mathematics

STANDING COMMITTEES OF THE GRADUATE DEPARTMENT

EXECUTIVE: Professor Hooper, *Chairman*; Professors Denison and Metcalf.

REQUIREMENTS FOR DEGREES: Professor Evans, *Chairman*; Professors Wade and Maulsby.

The Graduate Department

INSTRUCTION

Graduate instruction is given by members of the several existing faculties. The advanced elective work offered to undergraduates in any department of the College of Letters is open to graduate students, and will count for the degree of Master of Arts, on condition that it be not counted for any other degree.* Additional courses still more advanced may be arranged with the instructor in whose department the work is to be done.

DEGREES

The degrees offered are Master of Arts and Master of Science. Departments at present open to candidates for the degree of Master of Arts are:—

ENGLISH,	MATHEMATICS,
MODERN LANGUAGES,	CHEMISTRY,
ANCIENT LANGUAGES,	PHYSIOLOGICAL CHEMISTRY,
HISTORY AND PUBLIC LAW,	BIOLOGY,
POLITICAL SCIENCE,	PHYSIOLOGY,
ELECTRICITY.	

The degree of Master of Science is offered in Biology, in Chemistry, and in Engineering.

THE DEGREE OF MASTER OF ARTS will be conferred upon graduates of Tufts College who have received the degree of Bachelor of Arts, or upon graduates of other colleges whose course of study has been equivalent to that required at Tufts College for the degree of Bachelor of Arts, upon the following conditions:—

I. They shall have completed an approved course of advanced study, including the equivalent of at least thirty term hours, in one or at the most two departments. If two departments are chosen they should be allied, and should occupy the relation of major and subsidiary department.

* Students doing work in undergraduate classes are required to take the appointed final examination with these classes.

2. This course shall be pursued during a residence of not less than one year. In the case of graduates of Tufts College, the condition of residence may be waived by special permission, but the degree cannot then be taken with less than two years of graduate study.

3. The candidate shall prepare a thesis in the form prescribed by the regulations, which may be ascertained at the Secretary's office, and shall pass a satisfactory examination under the supervision of a board of three examiners, appointed by the Graduate Faculty at its May meeting. The thesis must be presented at least one month before Commencement.

4. No subject counted for the first degree will be counted for the second degree.

5. Students taking the degree at the end of a four years' course of study must have complied with the requirement as to standing governing those who receive the degree of A.B. at the end of three years; that is, an average standing of Grade B, or higher, must have been attained on the entire work of the course.

6. Candidates for this degree must make a written application to the Graduate Faculty before October 1 of the college year in which the degree is to be conferred, and if the degree is not taken after one year of study they must also give a second notice three months before receiving the degree. This application shall indicate the department or departments in which it is proposed to pursue work for a degree.

Graduates of Tufts College who have taken the degree of Bachelor of Philosophy, or graduates of other colleges holding a degree of similar grade, must complete the requirement for the degree of Bachelor of Arts before they can be entered as students in courses leading to the degree of Master of Arts.

THE DEGREE OF MASTER OF SCIENCE will be conferred upon Bachelors of Science who shall satisfactorily pursue advanced professional study at Tufts College for one year, under the conditions required of candidates for the degree of Master of Arts; or upon Bachelors of Science of Tufts College who shall pursue graduate work *in absentia* for at least two years, or who shall present suitable evidence of three years of professional work, one year of which must be in a position of responsibility, in which case a certain amount of professional study will be assumed. A thesis based upon this study will be required.

**DEPARTMENTS OPEN TO CANDIDATES FOR THE DEGREE OF
MASTER OF ARTS**

ENGLISH.—It is assumed that candidates for the degree of Master of Arts in English will have already laid a good foundation in English composition and the history of English literature. The amount of work expected is roughly indicated by that required of a major student in English at this College. When not anticipated in undergraduate work, the subjects numbered 7*, 10, 14 to 19, 21, 23, 25, 26, and 27, may be counted towards the Master's degree, provided that the work done distinctly surpasses in quality that required of undergraduates. On the other hand, a part of the work or the entire work for the advanced degree may consist of a special course of study, undertaken under the direction of the department. Such special work must be of creative or investigative order. It may take the form of discussion of some question in literary history or literary criticism. It may consist of the intensive study of an author or a period. The use of German and French is sometimes necessary. A final oral examination is customary.

MODERN LANGUAGES.—The undergraduate subjects at present offered in Modern Languages enable the candidate for the degree of Bachelor of Arts who specializes in this department to cover the work formerly required for the Master's degree. For those who have not taken the more advanced subjects, the department offers a full graduate course leading to the degree of Master of Arts. The work is performed in existing undergraduate classes. To enter upon this course, the candidate must have completed the equivalent of six of the Modern Language subjects, including 1 and 3 † in both German and French. Of elementary subjects only Italian may be taken, by such as have had the equivalent of two years of French. Graduate students whose special work is being performed in other departments are admitted to such classes in German and French, beyond subject 1, as their proficiency will warrant.

* See "Departments of Instruction," pages 61 and 62.

† See "Departments of Instruction," pages 63 to 66.

ANCIENT LANGUAGES. — Candidates for the degree of Master of Arts in Greek or Latin must have completed, for Greek, subjects 1, 2, 3, and 4 or 5; for Latin, subjects 1, 2, 3 or 4, and 5, or equivalents.* It is desirable that candidates for this degree in either of the ancient languages present the other as a minor department. Exceptional cases will be treated in accordance with the varying circumstances. Greek 4, 5, 7, 8, and 9, Latin 3, 4, 6, 8, 9, 10, and Classical Archæology 1, 2, 3, 4, 5, and 6, so far as these have not been anticipated as undergraduate work, may be counted towards the Master's degree. Graduate students will be expected to do work of an advanced character, either in classes with undergraduates or on special lines of investigation assigned by the instructors. The required thesis, on an approved topic, must embody the results of the investigation of some author or period, or of some philological or archæological subject. A reading knowledge of French and German is indispensable.

HISTORY AND PUBLIC LAW.—Before beginning graduate work in History and Public Law every student must have completed History 1 and 2, and Public Law 1 or 2, or their equivalent.† The advanced subjects enumerated in the catalogue, in so far as they are suited to the needs of the candidate, may be offered for the higher degrees, but it is expected that much of the candidate's work will consist of special work pursued under the direction of the department.

For the degree of Master of Arts, a working knowledge of French is essential. A similar knowledge of German is desirable, and in some cases may be necessary. In addition to the subjects required for the degree candidates will be expected to do something in the way of an independent investigation of a definite subject, the result to be embodied in a thesis.

A final oral examination is customary.

POLITICAL SCIENCE.—The degree of Master of Arts in Political Science is conferred on graduates of Tufts College who

* See "Departments of Instruction," pages 67 to 71.

† See "Departments of Instruction," pages 75 to 78.

pursue successfully one year of resident graduate study. Bachelors of Arts of other colleges must satisfy the department that they are qualified by previous training to enter upon the desired course of study, and show the results of a year's resident graduate work with high credit. A good reading knowledge of French and German is desirable, and may in certain lines of work be necessary. Before receiving the degree all candidates are expected to sustain a final oral examination, and give evidence by a thesis of their ability to do work of the investigative order. In addition to the regular advanced work offered by the department, special subjects giving opportunity for original investigation will be outlined for candidates wishing to pursue them.

MATHEMATICS.—Graduate students in Mathematics must have acquired a working knowledge of the calculus, and may offer as part of their work for the Master's degree any of the subjects given by the department except the first six, but subjects 7, 9, and 10, or their equivalents, must be included.* Candidates will hold themselves in readiness to be examined at the end of their studies upon any topics treated in the first six subjects, as well as upon work offered for the degree.

CHEMISTRY.—The requirements for beginning graduate work in Chemistry are the completion of subjects 1, 2, and 3, or their equivalent.† Subjects 4, 5, 7, 8, 9, 10, 12, and 14 may be counted toward the Master's degree, if they have not been counted as undergraduate work. Examination is required, and a satisfactory thesis.

PHYSIOLOGICAL CHEMISTRY.—The work in Physiological Chemistry requires in preparation a thorough foundation in inorganic and organic chemistry, including qualitative and quantitative analysis; the ability to read scientific French and German readily; and a thorough knowledge of the elements of physics, particularly with reference to the laws of the density of gases and fluids under heat and pressure, as well as such ac-

* See "Departments of Instruction," pages 82 and 83.

† See "Departments of Instruction," pages 85 to 87.

quaintance with optics as will enable one to use intelligently the polariscope, the spectroscope, and the microscope.

The course is one of laboratory work wholly, under the personal advice and assistance of the instructor, and must include one original investigation, to require not less than one half-year, and to be accompanied by a satisfactory thesis upon the results of such research. The subject of this investigation may be taken from the realm of enzymes, metabolism, or hygiene. A rigid examination will also be demanded upon the principles of physiological chemistry.

PHYSIOLOGY.—Before beginning graduate work in Physiology the candidate for the degree of Master of Arts must have had at least a year's training in biology, and, besides, a knowledge of the outlines of anatomy and physiology such as may be obtained from such works as Martin's Human Body, with simple laboratory experiments. A reading knowledge of French and German is desirable, and in some cases may be necessary. The work of the year is largely practical. It involves the completion of the work in physiology required of candidates for the degree of Doctor of Medicine, and, in addition, the investigation of some simple problem which shall serve as the basis of the required thesis.

BIOLOGY.—Before beginning graduate work in Biology the student must have a good knowledge of the elements of vertebrate and invertebrate anatomy and of physiology (subjects 1 to 4 of Tufts College, or their equivalent), and must be able to use French and German.* The work offered for advanced degrees is in the lines of comparative anatomy and of the histology and embryology of animals. Consequently the greatest stress will be laid upon laboratory work, but students may also take the subjects numbered 5, 6, 8, and 9.

For the degree of Master of Arts or Master of Science the student must pass a satisfactory examination in the principles of morphology, and present an acceptable thesis embodying the result of research.

* See "Departments of Instruction," pages 88 and 89.

ELECTRICITY.—As a preparation for graduate work in Electricity the candidate must have a thorough mathematical foundation, including differential equations, and a good knowledge of physics, including elementary electrical tests (Physics 2 and 31-1 to 31-4* of Tufts College, or an equivalent). Unless these requirements be met upon beginning graduate work, it will scarcely be possible to obtain the master's degree in one year.

The graduate work will include the satisfactory completion of subjects 61-3, 61-5, 61-6, 61-7, 61-9, and 61-11,* and the preparation of an acceptable thesis involving original research.

FELLOWSHIPS

THE OLMSTEAD AND MINER FELLOWSHIPS IN NATURAL HISTORY.—In accordance with the spirit of the gift of the late Charles Hyde Olmstead, of Hartford, Conn., the Trustees have established two fellowships in Natural History, to be known respectively as the Olmstead and the Miner Fellowship. The income of these fellowships, amounting to two hundred and fifty dollars annually each, is awarded by the Trustees to graduate students in Natural History, upon recommendation of the Administrative Board. The conditions of the fellowships are as follows:—

(1) The application must be made in writing before May 1, addressed to the President of the College. It must contain evidence of a liberal education, and of ability to profit by the work to be done, as well as testimonials of good character from instructors or others. Any original article, either written or printed, is an aid in ascertaining the attainments of the candidate.

(2) The holder of the fellowship will be expected to devote himself to the prosecution of some special subject, under the direction of the professor in charge of the department of Natural History. He may be called upon for minor services, such as conducting examinations, but he shall not be called upon to teach. He may, however, at his own option, and with the approval of the President, give instruction by lectures or otherwise to persons connected with the College, but not elsewhere.

(3) The payments will be made half in January and half in June; but, in case of resignation or removal from the fellowship, payment will be

* See pages 84 and 146.

made only for the time it is actually held. The holder of the fellowship is not exempt from the payment of tuition.

- (4) Residence is a condition of holding either of these fellowships.

The holder of a fellowship may be eligible to a single re-election, but incumbency constitutes no claim to re-appointment.

SCHOLARSHIPS

The Trustees of Tufts College have established eleven scholarships, one in each department offering graduate work. Each scholarship gives free tuition to the incumbent, who is expected to devote himself exclusively to advanced study.

These scholarships are awarded by the Graduate Faculty, on recommendation of the heads of departments concerned, at or before the beginning of the year in which they are to be conferred. Applications must be made to the President on or before May 1 of the preceding year, and will regularly be acted upon at the June meeting of the Graduate Faculty.

TUITION

The tuition fee for the whole course for the degree of Master of Arts, or Master of Science, is *one hundred dollars*, of which *fifty dollars* is payable in advance.

THE CRANE
THEOLOGICAL SCHOOL

Faculty of the Crane Theological School*

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT

CHARLES H. LEONARD, A.M., D.D., LL.D., DEAN
Goddard Professor of Homiletics and Pastoral Theology

PHILIP M. HAYDEN, A.B., SECRETARY

WILLIAM G. TOUSEY, A.M., D.D.
Ryder Professor of Ethics and the Philosophy of Theism

GEORGE T. KNIGHT, A.M., D.D.
Packard Professor of Christian Theology

GEORGE M. HARMON, A.M., D.D.
Professor of Biblical Theology

WARREN S. WOODBRIDGE, A.M., D.D.
Woodbridge Professor of Applied Christianity

EDWIN C. BOLLES, A.M., PH.D., D.D., LL.D.
Dickson Professor of English and American History

J. STERLING KINGSLEY, Sc.D.
Professor of Biology

HERBERT E. CUSHMAN, A.M., PH.D.
Professor of Philosophy

DAVID L. MAULSBY, A.M.
Professor of English Literature and Oratory

THOMAS WHITTEMORE, A.B.
Professor of English

HENRY C. METCALF, A.B., PH.D.
Jackson Professor of Political Science

LAWRENCE B. EVANS, PH.D.
Professor of History

CHARLES ST. CLAIR WADE, A.M.
Professor of the Greek Language and Literature

CHARLES B. LEWIS
Director of the Gymnasium

* Below the line are printed the names of instructors who, while not members of the Theological Faculty, offer subjects that are open to students of the School.

NON-RESIDENT LECTURERS

HENRY W. RUGG, D.D.

The Missionary Principle and Work

TIMOTHY LEARY, A.M., M.D.

Some Sociological Problems

COMMITTEE ON PROMOTIONS

Dean Leonard, *Chairman* ; Professors Knight and Harmon

The Crane Theological School

The Theological School is one of the co-ordinate departments of Tufts College. Students of the School are members of the College, enjoying its privileges and subject to its regulations.

COURSES OF STUDY

A course of three years, open to college graduates, leads to the degree of Bachelor of Divinity.

A course of six years leads to the degrees of A.B. and B.D., the requirements for admission being the same as those for candidates for the degree of A.B. (See pages 39 to 54.)

A course of four years leads to the degree of B.D., the requirements for admission being the same as those for candidates for the degree of A.B. (See pages 39 to 54.)

Special courses are arranged for such persons as may be deemed by the Faculty qualified for work in the School.

SYNOPSIS OF THE REQUIREMENTS FOR A.B. AND B.D.

[The unit here used (called the "term hour") is equivalent to one program hour a week for a half-year.]

	TERM HOURS
LANGUAGE (Greek, Latin, German, French; each student to take <i>three</i>)	18
SCIENCE (Mathematics, Physics, and Biology)	18
HISTORY (Civil and Religious)	15
BIBLE	24
PHILOSOPHY (Psychology, Logic, Ethics, Systematic Theology, etc.)	24
SOCIOLOGY (Law, Economics, and Applied Christianity)	15
ENGLISH (Rhetoric, Literature, Oratory, and Homiletics)	42
PHYSICAL TRAINING	2
Electives, amounting to	24
Total term hours	182

SYNOPSIS OF THE FOUR-YEAR COURSE FOR B.D.

[The unit here used (called the "term hour") is equivalent to one program hour a week for a half-year.]

	TERM HOURS
BIBLE	30
PHILOSOPHY (Logic, Ethics, Theology)	21
ENGLISH (Rhetoric, Literature, Oratory, Homiletics)	36
HISTORY (Civil and Religious)	15
APPLIED CHRISTIANITY	6
PASTORAL CARE	3
PHYSICAL TRAINING	2
FREE ELECTIVES	9
Total	122

For all theological students the major instructor and official adviser on general matters relating to college affairs is the Dean of the Theological School, or some appointed representative from the Theological Faculty.

Departments of Instruction

OLD TESTAMENT

PROFESSOR WOODBRIDGE

The aim is to secure, chiefly through the English version, a working knowledge of the Old Testament, and an appreciative acquaintance with Hebrew thought and life. The course includes a history of the book; a history of the people Israel from whose literature the book was made; a history of the development of the literature; followed by critical and interpretative study. Hebrew is offered as the foundation of a more critical study.

SUBJECTS

1. (History of Religions 1.*) Life and literature of the Hebrew people from the beginnings to the Greek period. *Mon., Wed., Fri., 4.00.*

PROFESSOR WOODBRIDGE

* See page 170.

[2. (History of Religions 2.*) A study of Jewish life in contact with Hellenistic culture and Roman provincial administration. (*Three hours for a half-year, to be arranged.*) PROFESSOR HARMON]

3. (Hebrew 1.†) The Hebrew Language: the elements of grammar. Translation of portions of Genesis, of the book of Ruth, and other selections. *Tu., Th., Sat., 11.45.* PROFESSOR WOODBRIDGE

4. (Hebrew 2.†) Hebrew Language: syntax, critical readings from the historical books, from the prophets, and the Psalms. *Three hours a week.* PROFESSOR WOODBRIDGE

5. Principles of criticism; critical analysis of Genesis; the pre-exilian prophets; Isaiah, with special reference to authorship and date; the development of Hebrew law; the prophets of the exile; post-exilian literature. *Tu., Th., Sat., 8.45.* PROFESSOR WOODBRIDGE

NEW TESTAMENT

PROFESSOR HARMON

1. New Testament History (History of Religions 3*). This subject covers the history of the Jews during the lifetime of Jesus, including their relations to the Roman government, and their political, social, and religious institutions and customs. It also includes the origin, extension, and development of the Christian Church until the destruction of Jerusalem. Incidentally these results form the historical background for the study of the New Testament literature.

2. New Testament Criticism. This subject covers the investigation of the origin and character of the Gospels and the apostolic literature, the aim being to acquire an understanding of the general conditions essential to the correct interpretation of the New Testament writings.

3. New Testament Exegesis. The work consists of lectures on methods of interpretation, followed by an examination of the Synoptic Gospels in the Greek, with the object of acquiring a knowledge of the ministry and teachings of Jesus. It includes also a study of the Pauline Epistles and the Johannine literature.

* See page 170.

† See page 71.

SUBJECTS

1. History of the Beginnings of Christianity. A study of the times of Jesus, of the rise and growth of the apostolic church, and of the origin of its literature. *Mon., Wed., Fri., 3.00.* (F) PROFESSOR HARMON
2. New Testament Criticism. *Mon., Wed., Fri., 9.45.* (S) PROFESSOR HARMON
3. New Testament Exegesis and Theology. *Mon., Wed., Fri., 11.45.* PROFESSOR HARMON
4. New Testament Greek. *Three hours a week for a year, to be arranged.* PROFESSOR HARMON

HISTORY OF RELIGIONS

PROFESSORS WOODBRIDGE, HARMON, AND KNIGHT

The department of History of Religions deals with a special phase of the general subject of history, showing the growth of superstition and religion, and their relation to civilization — including politics, social life, philosophy, literature, art, and personal character.

SUBJECTS

1. (Old Testament 1.*) Life and literature of the Hebrew people, from the beginnings to the Greek period. *Mon., Wed., Fri., 4.00.* PROFESSOR WOODBRIDGE
- [2. (Old Testament 2.†) A study of Jewish contact with Hellenistic culture and Roman provincial administration. *Three hours for a half-year, to be arranged.* PROFESSOR HARMON]
3. (New Testament 1.‡) History of the beginnings of Christianity. A study of the time of Jesus, of the rise and growth of the apostolic church, and of its literature. *Mon., Wed., Fri., 3.00.* (F) PROFESSOR HARMON
4. Non-Christian Religions. Comparative studies of religion and civilization in ancient Egypt, Chaldea, Greece, Rome, and Germany, and in ancient and modern India, China, Japan, and Turkey. *Tu., Th., Sat. 8.45.* (F) PROFESSOR KNIGHT
5. History of the Church, including the sects, from the apostles to the present time. *Tu., Th., Sat., 9.45.* PROFESSOR KNIGHT

* See page 168.

† See page 169.

‡ See page 170.

ETHICS

PROFESSOR TOUSEY

Analytical and inductive study of the moral experience is followed by an attempt to develop a correct moral theory. Attention is given to the more important questions in ethical philosophy. Such doctrines as sentimentalism, hedonism, utilitarianism, intuitionism, naturalism, and determinism are studied, not merely in a critical spirit, but with a view to discover the special aspects of truth for which they stand.

A course is also offered in the history of ethical speculation, and of the development of moral customs and ideas. Finally, the bearing of ethical theory on the leading problems of the individual and the social life is discussed, particular attention being given to such subjects as duties, rights, education, charities, State aid, temperance, socialism. Some attention is also given to casuistry. The course concludes with a review of what is distinctively known as Christian ethics. The instruction throughout is shaped to bring into clearness the fundamental principles of morality, and to show their importance in the conduct of the personal life and in the moral guidance of others.

SUBJECTS

1. (Philosophy 6.*) Theoretical Ethics. The moral nature; freedom of the will; moral judgments; theories of the standard; the moral ideal; Christian ethics; ethics and theism. *Mon., Wed., Fri., 10.45.* (F)

PROFESSOR TOUSEY

2. (Philosophy 7.*) Practical Ethics. Moral theory as bearing on the individual and social life; special consideration of duties, rights, temperance; charities; moral pathology; penology. *Mon., Wed., Fri., 10.45.* (S)

PROFESSOR TOUSEY

3. (Philosophy 8.*) Ethics, Historical and Critical. History of ethical speculation; development of moral customs and ideals. *Three hours, to be arranged.* (F)

PROFESSOR TOUSEY

PHILOSOPHY OF THEISM

PROFESSOR TOUSEY

At the outset some attempt is made to articulate the Final

* See page 73.

Problem, and to indicate the various answers that have been proposed. The different modes of the theistic argument are then reviewed, their grounds scrutinized, and their logical value considered. This imposes a patient hearing and painstaking judgment of objections which have found expression in earlier and later times. In treating of the office of reason in matters of belief, and of the limits of the understanding, both mysticism and agnosticism come in for notice; and in discussing the attributes of God, and His relation to the universe, pantheism and pessimism receive somewhat special attention. The general method here, as in Ethics, is to employ treatises available as texts, and to supplement them by means of annotations, lectures, and parallel readings, the aim being to lead the student to the sources of evidence, and to establish a vigilant and correct method of inquiry. Much importance is attached to the dialectic of the class-room as securing a ready command of resources, and as a corrective of ill-defined notions and hasty inference. An effort is made to treat subjects in the light of contemporary criticism and the latest developments of science; and, by testing and chastening conclusions, to provide against fanaticism on the one hand and frivolity of judgment on the other.

SUBJECT

1. (Philosophy 15.)* The final problem; limits of the intelligence; Final Cause in nature; evidences of a moral order; modes of theistic argument; intuitivism; anti-theistic theories. *Mon., Wed., Fri., 11.45.*

PROFESSOR TOUSEY

THEOLOGY

PROFESSOR KNIGHT

The purpose is, primarily, to assist the student to think independently on theological subjects, and to abide in the consequences. In pursuing this purpose, attempt is made to co-ordinate the products of biblical theology, religious history, natural theology, ethics, and, indeed, of all the proper sources of material, and thus to produce a scientific theology. It is believed

* See page 74

that such a system will deserve and receive the student's confidence, and will enlist his energies.

The method includes several stages :—

1. The history of important doctrines and creeds, as a general introduction.
2. *a.* Special history of the topic in hand, with analysis and classification of opinions and theories according to their logical relations.
- b.* The collection of the facts, so far as given in the present state of knowledge, and the criticism of the theories on the basis of the facts.
- c.* The organization of the results into a scientific product.
- d.* Illustrative applications to practical problems,—ecclesiastical, political, social, and personal.

SUBJECTS

1. Historical Introduction. *Mon., Wed., Fri., 4.00.* (s)

PROFESSOR KNIGHT

2. (Philosophy 16.*) Theology; anthropology; soteriology; eschatology; critical study of modern doctrines. *Tu., Th., Sat., 11.45.*

PROFESSOR KNIGHT

APPLIED CHRISTIANITY

PROFESSOR WOODBRIDGE

The topic of study is the ministry of the church in the world. The purpose is to secure the efficiency of pastor and church in the promotion of the Christian life. The course covers one year, and is a series of lectures, supplemented by investigation. The lectures deal, in order, with the foundation principles of the ministry of the church, the proper scope and limitations of its work under these principles, efficient organization and best instrumentalities, and the specific duties which present-day life and problems make imperative. The course in investigation requires of the student a special study of some given community in its practical attempts at solving its own

* See page 74.

problems. He visits the institutions of religion and philanthropy, personally observes their work, and makes written report of the same for discussion in the class-room.

SUBJECTS

1. The Efficient Ministry: fundamental principles; instrumentalities and organization; individual and social duties; practical methods.
Hours to be arranged. PROFESSOR WOODBRIDGE

HOMILETICS AND PASTORAL CARE

PROFESSOR LEONARD

The inclusive subject in this study is the Work of the Minister.

A. The Work of the Minister as a Leader in Thought, with special reference to preaching, consists of studies in constructive homiletics; the varying conception of preaching as determined by the person and the time; helps in the preparation of sermons from the study of history, literature, and character; the preparation and delivery of sermons; practice in extempore discourse; the cultivation of power in preaching; the study of representative preachers.

The above outlines the work of Homiletics 1 (Eng. 27*) and Homiletics 2.

An elective is offered in the History of Preaching, with reference to the relation of the pulpit to the life and the thought of the time. This study is made the basis of the needs of the modern pulpit.

An elective is offered on the preacher's use of the Bible: as history; as biography; as parabolic teaching; as poetry; as epistolary discourse. This study is designed for students who have taken biblical literature and interpretation.

B. The Work of the Minister as a Leader in Worship: as a permanent state of mind and heart; as a concrete expression of the person and the inner life; as a function of Christian society. Particular attention is given to the essential elements of public worship: the lesson; the principles of belief, or

* See page 62.

"confession with the mouth"; the prayer; the offering; the sermon; the elements of worship in preaching; the sacraments.

An elective is offered on the principles which underlie all acts of worship; in what way the subjective and objective principles may be co-ordinated. This work includes a careful study of liturgies, and all available forms of worship in their affirmative, conservative, and educative uses. This study is open to advanced students in Church History.

C. The Work of the Minister as a Leader in Social Service. This part of the study has particular reference to pastoral care, and includes the minister's relation to a single parish, and to a single community. Careful study is invited to the intellectual, spiritual, and social qualifications of the minister; modern methods of church-work; the conduct in the special offices of religion, as in baptism, confirmation, the Lord's Supper, the marriage service, the burial of the dead. The aim in this work is the practical preparation of the minister for his sacred duties.

An elective is offered in Religious Pedagogy, consisting of formal instruction in the class-room, and lectures on the principles of education; methods in religious teaching; graded instruction in Sunday-schools; nature study for religious training; the psychology of religion. Particular attention is given to the training of teachers. Students who take this subject come under the instruction of several professors and non-resident lecturers.

An elective is offered in Parish Administration. The provision of this study of the minister as an administrator, and as a student of system, is a forward step in recognition of the fact that the ministers of to-day must be trained in business methods.

In special cases the work of the school will be so arranged that students may become assistants, for three months at a time, to pastors designated by the Faculty, or by the head of the departments. The requirement is that this work shall be a study of conditions and methods in the individual parish and community, a report on the work in detail, and a thesis based upon the facts in the case.

SUBJECTS

A

1. (English 27.*) Inductive Homiletics, *Tu., Th., Sat., 11.45.*
PROFESSOR LEONARD
2. Constructive Homiletics *Tu., Th., Sat., 9.45.* PROFESSOR LEONARD
- [3. The Pulpit and the Life of To-day. *Hours to be arranged.*
PROFESSOR LEONARD]
- [4. The Preacher's Use of the Bible. *Hours to be arranged.*
PROFESSORS LEONARD AND WOODBRIDGE]

B

5. Worship as Life and the Expression of Life. *Hours to be arranged.*
PROFESSOR LEONARD
- [6. A Study of the Principles of Worship: especially adapted to advanced students and clergymen. *Hours to be arranged.*
PROFESSORS LEONARD AND KNIGHT]

C

7. Pastoral Care, or the Minister in his Relation to a Single Parish or Community. *Tu., Th., Sat., 8.45. (s)* PROFESSOR LEONARD
- [8. Religious Pedagogy: especially adapted to clergymen and qualified Sunday-school teachers. *Hours to be arranged.*
In care of PROFESSOR LEONARD]
9. Parish Administration. *Hours to be arranged. (s)*
In care of PRESIDENT HAMILTON

PSYCHOLOGY

1. (Philosophy 19.†) The Application of Psychology to the Work of the Ministry. *Three hours, to be arranged. (s)* MR. SHIELDS

* See page 62.

† See page 74.

SIX-YEAR COURSE

A detailed synopsis follows of the Course of Six Years, arranged for one who enters with Greek * and Latin, and leading to degrees A.B. and B.D. For particulars concerning the several subjects, see pages 61 to 94, and for the strictly professional departments, pages 168 to 176.

First Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Mathematics	3	82	Mathematics	1(or 2)	82
Physics	1	84	Physics	1	84
Greek	2	69	Greek	2	69
French		65	French		65
or German		65	or German		65
English	1	61	English	2	61
Physical Training		93	Physical Training		93

Second Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Philosophy	1(or 2)	72	Oratory	1	64
History	1	76	History	1	76
Biology	1	88	Biology	1	88
or Chemistry	1	86	or Chemistry	1	86
German		64	German		64
or French		65	or French		65
English (<i>elective</i>)		62	English (<i>elective</i>)		62
Physical Training		93	Physical Training		93

Third Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Old Testament	1	168	Old Testament	1	168
New Testament	1	170	New Testament	2	170
English (<i>elective</i>)		62	English (<i>elective</i>)		62
Philosophy	3	72	<i>Two electives</i>		
Oratory	2	64			

* Those who enter with no Greek must take New Testament Greek in place of one of the free electives, and may substitute advanced Latin for Greek 2 in the following statement.

Fourth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	3	170	New Testament	3	170
History of Religions	5	170	History of Religions	5	170
Philosophy	6	73	Philosophy	7	73
English (<i>elective</i>)		61	English (<i>elective</i>)		62
Old Testament	5	169	Old Testament	5	169
			<i>One elective</i>		

Fifth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Homiletics	1	176	Homiletics	1	176
Applied Christianity		173	Applied Christianity		173
Philosophy of Theism		172	Philosophy of Theism		172
History of Religions	4	170	<i>Two electives</i>		
Political Science	1	79			

Sixth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Theology	2	173	Theology	2	173
Homiletics	2	176	Homiletics	2	116
Public Law	1	77	Pastoral Care		114
<i>Two electives</i>			<i>Two electives</i>		

FOUR-YEAR COURSE

A detailed synopsis follows of the Course of Four Years, arranged for one who enters without Greek,* and leading to the degree of B.D.

First Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	4	170	New Testament	4	170
Old Testament	1	168	Old Testament	1	168
History	1	76	History	1	76
English	1	61	English	2	61
English (<i>elective</i>)		62	English (<i>elective</i>)		62
Physical Training		93	Physical Training		93

Second Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	1	168	New Testament	2	169
Old Testament	5	169	Old Testament	5	168
English (<i>elective</i>)		62	English (<i>elective</i>)		62
History of Religions	5	170	History of Religions	5	170
Philosophy	3	72	Oratory	1	63
Physical Training		93	Physical Training		93

Third Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	3	170	New Testament	3	170
Homiletics	1	176	Homiletics	1	176
Philosophy	6	73	Philosophy	7	73
History of Religions	4	170	<i>Two electives</i>		
Oratory	2	64			

Fourth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Homiletics	2	174	Homiletics	2	174
Theology	2	172	Theology	2	172
Philosophy of Theism		172	Philosophy of Theism		172
Applied Christianity		173	Applied Christianity		173
<i>One elective</i>			Pastoral Care		174

* One who enters with Greek and Latin has a larger range of electives.

Supplementary Information

In addition to the information given on pages 163 to 179, the following is of interest to divinity students.

RELIGIOUS OBSERVANCES

The students in the Crane Theological School attend daily morning prayer in Goddard Chapel; and religious services, in the care of the students, are held in Miner Hall every evening, except Saturday.

SUPPLEMENTARY LECTURES

Lectures, which bear upon the general work of the Christian ministry, and upon special subjects of study, are given at intervals throughout the year by well-known clergymen and others of the vicinity.

The most noted divines of New England officiate every Sunday within easy distance, and may be studied by the student in respect to their teachings and their methods. It is the policy of the school to encourage the judicious use of these important instrumentalities of culture.

LICENSE TO PREACH

The regular time for applying for licensure is a year and a half before graduation. Before that time the members of the Theological School are not allowed to preach.

BUILDINGS FOR THE USE OF THE THEOLOGICAL SCHOOL

Miner Theological Hall contains eight large, well-lighted, and well-ventilated lecture-rooms, and a special room for the meetings of the Faculty. Until other buildings are provided, one of the rooms in this hall is used for the historical and reference libraries, and one is appropriately furnished for the religious services of the school. A third room in the same hall is furnished as a parlor, and is known as the Maria Miner Reception Room.

Paige Hall, the dormitory of the Theological School, contains thirty-six single rooms, heated by steam and lighted by gas. Each room is provided with all necessary furniture — except sheets, blankets, pillow-cases, and towels.

EXPENSES AND PECUNIARY AID

Students in the Theological School are charged *one hundred dollars* annually for tuition. This charge includes the privilege of occupying a room in Paige Hall, and provision for heating and caring for it.

The following scholarships are assigned exclusively to theological students; certain prizes are also available under conditions, especially as described on pages 197 to 199 of this catalogue.

The General Convention of Universalists aids students by free scholarships, not exceeding one hundred and twenty-five dollars a year to any one student, subject always to the recommendation of the Faculty of the Theological School. Those students, also, who are in the regular course are permitted to preach, under the direction of the Faculty, during the year-and-a-half preceding their graduation. In this way they may add to their pecuniary resources.

THE GREENWOOD SCHOLARSHIP.—The income of one thousand dollars, bequeathed by the late Mrs. Eliza M. Greenwood, of Malden, is given to that member of the advanced class in homiletics who, maintaining a high standard of work as a student, has made in all the work in Homiletics and Oratory the most satisfactory progress.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE SCHOLARSHIP.—The income of two thousand dollars, bequeathed by the late John M. Sprague, is appropriated to the aid of needy and deserving students in the Crane Theological School, preference being given to any student, otherwise eligible, who is a direct descendant of the donor's father, John Sprague.

THE DOCKSTADER SCHOLARSHIP.—The income of ten thou-

sand dollars, given by George A. Dockstader, of New York, is appropriated to the aid of needy and worthy students.

The following scholarships amount to fifty dollars each:—

THE WHITTEN SCHOLARSHIP.—Founded by Mrs. Maria F. Whitten, of Cambridge.

THE HOLT SCHOLARSHIP.—Founded by Miss Celia Holt, of Stafford, Conn.

THE HENRY L. BALLOU SCHOLARSHIP.—Founded by Susan Ballou, of Woonsocket, R. I.

TWO BRADLEE SCHOLARSHIPS.—Founded by the late Caleb D. Bradlee, D.D., of Brookline.

TWO GOLDTHWAITE SCHOLARSHIPS.—Founded by the late Willard Goldthwaite, of Salem.

THE SARAH ELIZABETH PERKINS SCHOLARSHIP.—Founded by James D. Perkins, of Brooklyn, N. Y.

TWO LUCIUS R. PAIGE SCHOLARSHIPS.—Founded by the late Lucius R. Paige, D.D., of Cambridge, Mass.

TWO ANN M. PAIGE SCHOLARSHIPS.—Founded by the late Ann M. Paige, wife of the late Rev. Lucius R. Paige, of Cambridge, Mass.

The income of five hundred dollars, given by REV. JOHN VANNEVAR, is used in the purchase of books for the Department of Homiletics.

General Information

RELIGIOUS OBSERVANCES

Goddard Chapel, erected in 1882-83, is the gift of Mrs. Mary T. Goddard, as a memorial of her husband, the late Thomas A. Goddard. Morning prayers are held daily, at which attendance is required. The care of the pulpit on Sunday devolves upon the President. A trained choir, composed of men and women students, sings on Sunday. Attendance upon Sunday service is voluntary.

The RUSSELL LECTURE, established in accordance with a bequest of the late James Russell of Arlington, is delivered before the Trustees, Faculty, and students, on the second Sunday of the college year, by either a clergyman or a layman, on a subject prescribed by the testator.

Two subjects are presented, in alternate years.

The subject for 1908 was "*The Importance of Christian Faith and Belief in the Formation of the Character of the Good Citizen and the Good Man.*"

The subject for 1909 is "*The Sufficiency of the Promises of the Gospel to meet the Reasonable Wants of Man both in Time and in Eternity.*"

TUFTS COLLEGE STUDIES

A publication called "Tufts College Studies" has been established, as a means of presenting to the world the results of original work done in the different departments of the College. The numbers, which are issued as material is ready, are distributed to educational institutions and learned societies. The College desires to establish regular exchanges of these Studies with all publishing institutions at home and abroad. Correspondence regarding exchanges should be addressed to the Librarian of Tufts College. One volume and two numbers of a second volume of the scientific series have been issued, and a single number of the English series. The editorial board

of TUFTS COLLEGE STUDIES for the current year is made up of the President of the College and Professors Knight, Hooper, Kingsley, and Wade.

REGISTRATION

Every student in the College of Letters is required to file at the office of the Registrar a plan of study for the term, on the opening day of the term.

The registration is made in duplicate on blanks furnished for the purpose, one copy to be kept on file by the Registrar, the other to be used, in case of Freshmen, by advisers, and in case of Special students and members of the upper classes, by major instructors. Each student also furnishes such data as are required by the Registrar for class lists. Registration is made for the first half-year in accordance with the following schedules:—

I. FOR STUDENTS IN THE COLLEGE OF LETTERS, THE CRANE THEOLOGICAL SCHOOL, AND THE GRADUATE SCHOOL:

8:30-9:30 A.M. — All students registering for the first time as candidates for A.B. or B.S., or as Special students, will pay the registration fee of five dollars at the Bursar's office.

9-10 A.M. — All students receive registration blanks and notice of appointment with major instructor or adviser, at the Registrar's office.

10-12 A.M.—All students, except Freshmen, meet their major instructors in accordance with appointments.

12-1 P.M.—Freshmen meet their advisers in accordance with appointments.

2-4 P.M.—Students obtain the necessary signatures and file program cards at the Registrar's office. The approval of the major instructor or adviser is to be obtained after the separate subjects have been approved by the respective instructors.

On Friday, the second day of the term, all classes meet for assigned periods of fifteen minutes. See below, under Program.

Regular program appointments are in force on Saturday

II. FOR STUDENTS IN THE DEPARTMENT OF ENGINEERING :

9:30-10:30 A.M.—All students registering for the first time will pay the registration fee of five dollars at the Bursar's office.

10-12 A.M.—All students in this department obtain blanks and file programs at the Registrar's office.

On Friday, the second day of the term, Junior, Sophomore, and Freshman classes meet instructors for making of divisions and general instruction.

Regular program appointments are in force on Saturday.

Consultations concerning programs for the second half-year are held by appointments with advisers and major instructors during the examination period. On the first day of the second term, between 9 and 12 o'clock, students in all departments file their individual programs.

Recitations begin in accordance with the regular program on Tuesday, the second day of the term.

A registration fine of two dollars is imposed upon students in all departments who fail to register in person during the time prescribed above. This fine must be paid to the Bursar before registration can be permitted. This rule does not apply to students registering for the first time. Students are not recognized as members of classes until they have met all requirements of registration.

During the hours set apart for registration, instructors may be seen for consultation and for approval of plans of study, in rooms to be announced by posted bulletins.

PROGRAM LIMITATION

Plans of study are subject to the following regulations :

I. FOR STUDENTS IN THE COLLEGE OF LETTERS AND THE CRANE THEOLOGICAL SCHOOL :

No Freshman shall take a program of more than sixteen term hours ; nor shall a program of more than fifteen term hours be taken by any student who has received for the preceding half-year grade L in subjects aggregating three term hours, or grade C in subjects aggregating more than six term hours. But a student who has failed in a subject may repeat

that subject, provided his program is not thereby increased to more than eighteen term hours.

A program in excess of eighteen term hours shall not be allowed except by special permission of the Faculty.

Physical Training is disregarded in the consideration of program limitation.

II. FOR STUDENTS IN THE ENGINEERING DEPARTMENT :

The Freshman program is prescribed. Permission to vary the Freshman program, to take a program in excess of nineteen term hours, or to take a subject out of course, must be obtained by petition to the Committee on Promotions.

PROGRAM

The unassigned subjects in the five o'clock column of the program are so far as possible assigned at a meeting in Ballou 4 at 12 M. on the second day of the first half-year, and at the same hour on the first day of the second half-year. Every student concerned is required to be present at this time, either in person or by a proxy furnished with a complete tabular program of class engagements. Every instructor concerned is expected to be present in person. These appointments supersede all others. No assignment or change of hour is official except as posted by the Committee on Program.

Any instructor is permitted, after the second full week of a term, to transfer a subject to another program hour, under the following conditions: (a) all students taking the subject must have the new hour free; (b) previous notice must be given to the Committee on Program; (c) the change, if finally made, must be reported at the College Office.

If such a change can be made in two consecutive years, the subject may be permanently transferred to the new hour.

The numbering of new subjects is to be determined by the Committee on Program in consultation with the respective instructors.

PROMOTIONS

All candidates for degrees are classified as Freshmen until they have removed all entrance conditions.

Candidates for the degree of Bachelor of Arts, or Bachelor of Science in the College of Letters, must have received, for promotion to the Sophomore class, a credit of not less than twenty-seven term hours, and for promotion to the Junior class a credit of not less than fifty-seven term hours. To become a member of the Senior class, a student must have completed all the prescribed work, and have credit for not less than eighty-seven term hours.

Candidates for the degree of Bachelor of Science in the Engineering Department must have received, for promotion to the Sophomore class, a credit of not less than twenty-nine term hours; for promotion to the Junior class a credit of not less than sixty-four term hours; and for promotion to the Senior class a credit of not less than ninety-nine term hours.

GRADES OF SCHOLARSHIP

A student's rank is officially recorded by letters, as follows: **A**, excellent; **B**, good; **C**, fair; **L**, passed with low standing; **F**, work incomplete or unsatisfactory; **FF**, complete failure, credit can be obtained only by repeating the subject, and no dependent subjects can be taken.

The mark **F** imposes a condition which must be removed at a date to be determined by the Committee on Promotions of the proper Faculty on consultation with the instructor. In case a mark of **F** is not removed at the date thus determined, the entry will be changed to **FF**. The student must then discontinue any dependent subjects which he is taking, and can obtain a clear record only by repeating the subject in which **F** was given. The responsibility for the removal of the condition rests with the student, who is required to make the necessary arrangement with the instructor and to present at the office a statement from the instructor that the work has been accomplished.

Reports of the work of Freshmen are sent to parents after the first term. Reports for the year are sent in July to all Freshmen, and to other students who have returned their record-blanks for additions; but marks are not sent to students

whose college bills are in arrears. If a record-blank is lost, a charge of fifty cents is made for a duplicate.

Except as above stated, marks are not issued from the office.

MAJOR SUBJECTS

Every candidate for the degree of Bachelor of Arts shall choose a major subject before the beginning of the Sophomore year.

A change of major subject may be made not later than the end of the Junior year, by vote of the Faculty, on petition approved by the two major instructors concerned.

A second major subject may be granted not later than the end of the Junior year, under the same conditions.

ADMISSION FROM OTHER COLLEGES

Students entering Tufts College, after pursuing study in any other college of equal rank, and being honorably dismissed therefrom, are credited with the number of hours of work actually done toward the requirements of Tufts College, as certified by the proper authorities of the college from which the student comes. Such students must present satisfactory certificates showing the amount and character of work already accomplished, in order to obtain credit on a course of this College.

SPECIAL STUDENTS

Students who are not candidates for a degree, and who wish to pursue a special course of cognate studies, will be admitted to the College, subject to the following regulations:—

1. Every Special Student shall choose a major department, and shall make up a plan of study under the direction and subject to the approval of the major instructor.
2. The student shall satisfy the instructor in each subject included in the approved plan of study that he is able to pursue the work.
3. First-year Special Students are limited to sixteen program hours, and thereafter the same rules apply to them as to regular students in the College of Letters. (See page 184.)
4. A Special Student, on leaving College, shall be entitled to a certifi-

cate giving the grade attained in each subject pursued, and signed by the President and the Registrar.

5. Special students in Electrical Engineering are required to pass examinations in General Physics, Trigonometry, and Elementary Calculus.

TERMS AND VACATIONS

Commencement occurs on the third Wednesday in June, and the college year begins on the Thursday following the third Wednesday in September. The year is divided into two terms of eighteen weeks each. There are no college exercises during a recess of four days at Thanksgiving, twelve days at Christmas, four days at the mid-year period, and seven days beginning with the Wednesday evening preceding the nineteenth of April (see calendar, pages 8 and 9). Washington's Birthday and Memorial Day are holidays. An examination period of four days is held at the close of each half-year, during which time the daily class exercises are suspended.

Students are required to report in person at the Registrar's office within two hours after the last program appointment of the student preceding each vacation of more than a single day, except at the mid-year period; and within two hours before the first program appointment following such vacation.

This registration must take place between 8.45 A.M. and 5.15 P.M. A fine of two dollars will be imposed on each student who shall fail to report as above provided. The regularly appointed registration of studies at the beginning of each term shall be construed as reporting in person.

ABSENCES

Students are required to notify the Registrar at the beginning of an absence from any cause involving more than three consecutive program appointments. This report may be made in advance, and should state the cause of absence and its probable duration. A similar report is to be made before entering upon college work after the absence.

These reports are for the information of the college authori-

ties, and do not excuse the student from chapel attendance, nor from his obligations to the various instructors.

For the first failure to make such a report a fine of fifty cents shall be levied, and for each subsequent failure a fine of two dollars. In case of the absence of any student organization numbering not less than ten persons, notice may be given for all by one authorized representative.

No student organization shall be allowed to make engagements involving absence from college exercises unless such engagements are approved by the appropriate committee of the Faculty.

A report filed in accordance with these regulations shall not take the place of the required registration before and after vacations of more than a single day.

Absence from Examinations.—Students absent from examinations and requiring special examinations to make up for such absence are charged two dollars for each special examination.

OFFICE HOURS

The President may be found in the Faculty Room in the morning, from 8.45 to 9.45. The Dean of the College of Letters is in his office in Ballou Hall, and the Dean of the Engineering Department in his office in the Bromfield-Pearson Building, throughout the forenoon, except for class engagements. The office of the Registrar and Secretary is open every morning, from 8.45 to 12.45, and every afternoon except Saturday, from 2.00 to 5.00. The Bursar will be in his office in Ballou Hall during term time, Monday, Wednesday, Thursday and Friday mornings, from 8.30 to 12.00 o'clock.

ATHLETICS

The supervision of all athletic sports is vested in a Board of Directors of Athletics, consisting of nine members, three of whom are appointed from the Faculty, three from the Alumni, and three elected from the undergraduates. This board through its sub-committees controls the expenditures of all

moneys, the hiring of coaches, the arranging of games, the eligibility of players, and generally seeks to raise all college sports to a level of genuine usefulness. The Director of the Gymnasium limits the candidates for college teams to those students who have shown by a physical examination that they are qualified to engage in strenuous exercise.

EXPENSES

The charge for instruction in the College of Letters is *one hundred and twenty-five dollars* a year for the normal program of fifteen hours a week or less (not including physical training). For additional subjects a further charge is made at the rate of \$12.50 a term for three term hours; but no student will be required to pay more than *five hundred dollars* for the number of term hours of instruction required for the degree in the College of Letters. A registration fee of five dollars is charged to all students entering the College as candidates for the degree of A.B. or B.S., or as Special students.

The charge for instruction in the Department of Engineering is *one hundred and fifty dollars* a year.

No part of the fees and charges for a term is returnable to the student if he leaves during the term.

Students in the chemical laboratories are charged for breakage, and *four dollars* a term for materials used. A fee of *two dollars and a half* a term is required of all students taking laboratory work in Biology.

Half room-rent, including heat, ranges from twenty-five to ninety-one dollars, in the several dormitories for men.* In those for women, half room-rent ranges from thirty-seven to eighty-five dollars. Students furnish their own rooms. Any special damage done by students to college property is charged in the term bills. Rooms in the college halls will be open for occupancy of students on and after the Wednesday of the week preceding the opening of the college year, and will be closed on the Wednesday after Commencement. Non-resident students in all depart-

* For further information concerning rooms, see pages 208 to 211.

ments, except the Medical and Dental Schools, are subject to a fixed annual charge of ten dollars.

A place of study for non-resident women students is provided in Ballou Hall. Men students may obtain the use of day-rooms in the dormitories by arrangement with the Bursar.

Students may deposit with the Bursar money for safe keeping. A receipt will be given, and the money, or any part of it, may be withdrawn on demand. Students may purchase specially prepared drafts in the sum of five dollars each, thus providing against loss by theft.

Payment of tuition, room rent, and other charges in all departments of the College is made in advance at the beginning of each half-year, on or before October first and March first.

All college charges are payable to the Bursar, and all arrangements with regard to rooms are to be made with him. Before a student can receive his degree the Bursar must certify that all college charges have been met.

The Executive Committee of the Trustees has power to order the suspension or dismissal of a student for failure to keep his bills promptly paid, or for other good and sufficient cause.

By an arrangement with the Somerville Hospital, resident students are assured free hospital treatment in case of illness, during their entire course, at a cost of two dollars a year.

Students board in commons at \$4.00 per week; in private families at \$4.00 to \$5.00 for table board. Other expenses, such as for light, furniture, books, clothing, washing, and incidentals, vary with the economy of each student.

The following estimates represent the fixed annual expenses:—

Tuition	\$125.00	\$125.00
Physical Culture, including gymnasium and grounds	10.00	10.00
Reading-room	1.00	1.00
Hospital	2.00	2.00
Board, \$4.00 to \$5.00 a week (36 weeks)	144.00	180.00
Total	\$282.00	\$318.00
Registration fee, at the beginning of the course		5.00

Engineering students, in addition to the charge for instruction

of *one hundred and fifty dollars*, pay from fifteen to twenty-five dollars a year for books and instruments (if new), and the regular laboratory fees. See for details the pamphlet issued by the Department of Engineering.

Special students in the College of Letters will be charged \$20.00 a term for each subject of three hours a week or less, and the usual laboratory fees.

SCHOLARSHIPS

Awards of scholarships are made by the Board of Trustees, on the recommendation of the Faculty. The obtaining of a scholarship for one year does not constitute any title to a second nomination. Application for scholarships must be filed with the Secretary on blanks furnished for the purpose, on or before the first day of October; and, if the applicant be a minor, must be sanctioned by his parent or guardian.

New students desiring scholarships will be requested to file answers to specific questions on a blank provided for this purpose. This blank must be accompanied by a letter from the principal of the school last attended, containing a statement as to the applicant's character and especially as to his standing as a student. If there appears to be real need and evidence of promise of scholarship, the applicant may be assured of scholarship aid for the first half of the Freshman year, at the rate of \$75 per year.

After the first half of the Freshman year, continuance of aid will depend upon the student's need and the grade of his work. No student will receive aid if he has a grade of L, or lower, in more than twelve hours of the preceding year; or, in case of Freshmen, in more than six hours of the first half of the Freshman year.

Of those eligible to receive scholarship aid, a limited number of those who are at once highest in scholarship and most in need will be assigned scholarships at the rate of \$100 per year. Those who are lowest in scholarship and least in need will be assigned scholarships at the rate of \$50 per year. Others may be assigned scholarships at the rate of \$75 per year.

The following conditions must be strictly observed by the applicant:

- (a) His expenditure must be moderate, and strictly in accordance with his declaration of limited means.
- (b) He must be regular in attendance.
- (c) He must be guilty of no behavior reflecting upon his moral character or subversive of good order in the College.

Applicants are required to reside in college dormitories unless excused by the Executive Committee of the Board of Trustees, and in all cases students residing in college dormitories will be given preference over those residing at home.

Scholarships are available for those students only whose term bills are fully paid within ten days after the opening of each college term, or after such bills shall have become due. The bills of any student whose connection with the College ceases are due at that time.

The following scholarships have been founded in the College. Except in special cases, when the donor has otherwise stipulated, the Trustees will award scholarship aid in such sums as they may determine in each case.

THREE STATE SCHOLARSHIPS.—Established in accordance with a resolve of the Commonwealth.

FIVE HOWLAND SCHOLARSHIPS.—Established from the income of the bequest of the late Edwin Howland, of South Africa.

FIVE WALKER MATHEMATICAL SCHOLARSHIPS.—Established in honor of the late William J. Walker, M.D., of Newport, R. I., and payable from the income of the Walker Fund.

TWO MOSES DAY SCHOLARSHIPS.—Founded by the late Moses Day, of Roxbury.

THE A. A. MINER SCHOLARSHIP.—Founded by the late Alonzo Ames Miner, D.D., of Boston.

THE REBECCA T. ROBINSON SCHOLARSHIP.—Founded by the late Charles Robinson, LL.D., of Newton.

THE WILLIAM OSCAR CORNELL SCHOLARSHIP.—Founded by William Oscar Cornell, of Providence, R. I.

THE ARA CUSHMAN SCHOLARSHIP.—Founded by Ara Cushman, of Auburn, Me. This scholarship is not available during the present year.

THE LAURA A. SCOTT SCHOLARSHIP.—Founded by Mrs. Laura A. Scott, of Ridgefield, Conn.

THE STOW SCHOLARSHIP.—Founded by the late Mrs. Eugenia D. Stow, of Meriden, Conn.

THE NORCROSS SCHOLARSHIP.—Founded by James A. and Mrs. Mary E. Norcross, of Worcester.

THE ANDERSON SCHOLARSHIP.—Founded by John M. Anderson, of Salem, in the name of John M. and Rebecca Anderson.

THE TRAVELLI SCHOLARSHIP.—Founded by Mrs. Emma R. Travelli, of Newton.

THE WHITTIER SCHOLARSHIP.—Founded by the late Charles Whittier, of Roxbury, in the name of Charles and Eliza Isabel Whittier.

THE TALBOT SCHOLARSHIP.—Founded by the late Newton Talbot, of Boston.

THE SIMONS MEMORIAL SCHOLARSHIP.—Founded by Mrs. Mary A. Simons, of Manchester, N. H., in memory of Hiram H., Augustus, and Frank Simons.

THE AMASA AND HANNAH L. WHITING SCHOLARSHIP.—Founded by Mrs. Hannah L. Whiting, of Hingham.

THE MARTHA GOLDTHWAITE MEMORIAL SCHOLARSHIP.—Founded by the late Willard Goldthwaite, of Salem.

THE ANDREW J. CLARK MEMORIAL SCHOLARSHIP.—Founded by Mrs. Abbie B. Clark, of Orange.

THE SARAH E. SAYLES MEMORIAL SCHOLARSHIP.—Founded by the late Albert W. Sayles, of Lowell.

THE COUSENS SCHOLARSHIP.—Founded by the late John E. Cousens, of Brookline, in the name of John E. and Sarah C. Cousens.

THE BENJAMIN F. SPINNEY SCHOLARSHIP.—Founded by Benjamin F. Spinney, of Lynn.

THE HENRY F. BARROWS SCHOLARSHIP.—Founded by Henry F. Barrows, of North Attleboro.

THE ELLERY E. PECK MEMORIAL SCHOLARSHIP.—Founded by the late Henry Rollins, of Bangor, Me.

THE J. H. MORLEY MEMORIAL SCHOLARSHIP.—Founded by Herbert Small Morley, of Templeton.

THE EDWIN H. CHAPIN MEMORIAL SCHOLARSHIP.—Founded by friends of the late Edwin Hubbell Chapin, D.D., in New York City.

THE THOMAS A. GODDARD MEMORIAL SCHOLARSHIP.—Founded by the late Mrs. Mary T. Goddard, of Newton.

THE HOSEA BALLOU, 2D, MEMORIAL SCHOLARSHIP.—Founded by the late Mrs. Mary T. Goddard, of Newton.

THE HENRY E. COBB SCHOLARSHIP.—Founded by the late Henry E. Cobb, of Boston.

THE MARY ANN WARD SCHOLARSHIP.—Founded by Sylvester L. Ward, of Boston.

THE MARIA P. WINN SCHOLARSHIP.—Established from a bequest of the late Mrs. Maria P. Winn, of Woburn.

THE JOSEPH D. PEIRCE MEMORIAL SCHOLARSHIP.—Founded by the children and other relatives of the late J. D. Peirce, D.D., of Attleboro.

FIVE JOHN AND LUCY H. STOWE SCHOLARSHIPS.—Five scholarships for women students, founded by the late Mrs. Lucy H. Stowe, of Lawrence.

TWO SIMMONS SCHOLARSHIPS.—Founded by the will of Robert F. Simmons, of Attleboro, in the name of Mary F. and Robert F. Simmons.

THE JOSHUA S. AND HARRIET N. WHITE SCHOLARSHIP.—Founded by the late Joshua S. White, of Pawtucket, R. I.

THE JOHN B. PERKINS SCHOLARSHIP.—Founded by Ann Maria Perkins, of Medford.

TWO BARNARD SCHOLARSHIPS.—Founded by Caroline M. Barnard, of Everett.

THE BARTLETT SCHOLARSHIP.—Founded by the late Mrs. Nancy Bartlett, of Milford.

THE B. H. DAVIS SCHOLARSHIP.—Founded by the Rev. B. H. Davis, of Weymouth, for the benefit of students of the College of Letters who are preparing to enter the Christian ministry.

THE LATIMER W. BALLOU SCHOLARSHIP.—Founded by the late Latimer W. Ballou, of Woonsocket, R. I.

THE NATHANIEL WHITE SCHOLARSHIP.—Founded by Armenia S. White, of Concord, N. H.

THE LIZZIE P. ALLEN SCHOLARSHIP.—Founded by the late Lizzie P. Allen, of Derby Line, Vermont.

THE RHODE ISLAND SCHOLARSHIP.—Founded by several persons in Rhode Island.

TWO CHARLES AND FANNIE A. MINER BOOTH SCHOLARSHIPS.—Founded by the late Charles Booth, of Springfield, Vermont.

THE LUTHER GILBERT SCHOLARSHIP.—Founded by the late Mrs. Luther Gilbert, of Roxbury.

THE ORMSBEE CLASS SCHOLARSHIP.—Founded by Benjamin F. Smith, of Pawtucket, R. I.

TWO MARY AND LUTHER GILBERT SCHOLARSHIPS.—Founded by Mrs. Mary G. Knight, of Roxbury, for the benefit of women.

THE JAMES M. AND EMILY COOK SCHOLARSHIP.—Founded by Henrietta J. States, of Boston.

THE WILLIAM H. SHERMAN SCHOLARSHIP.—Founded by the late William H. Sherman, of Cambridge.

THE DAVIS COOK SCHOLARSHIP.—Founded by the late Davis Cook, of Cumberland, R. I.

THE AUSTIN B. FLETCHER SCHOLARSHIP.—Founded by Austin Barclay Fletcher, of New York City.

THE JONAS CLARK WELLINGTON SCHOLARSHIP.—Founded by Mrs. Sarah C. Fisher Wellington, of Cambridge.

THE MARY L. GROCE SCHOLARSHIP.—Founded by the late Mary L. Groce, of Roxbury.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE SCHOLARSHIP.—Founded by the late John Sprague, of Lowell.

The following scholarships of fifty dollars each are awarded annually :—

THE A. A. MINER SCHOLARSHIP.—Founded by the late Alonzo Ames Miner, D.D., of Boston.

THE PERKINS SCHOLARSHIP.—Founded by James D. Perkins, of New Rochelle, N. Y.

THE MOSES DAY SCHOLARSHIP.—Founded by the late Moses Day, of Roxbury.

THE JOSEPH H. WALKER SCHOLARSHIP.—Founded by Joseph H. Walker, of Worcester.

THE GEORGE C. THOMAS SCHOLARSHIP.—Founded by George C. Thomas, of Philadelphia, Pa.

THE ALBERT W. SAYLES SCHOLARSHIP.—Founded by the late Albert W. Sayles, of Lowell.

THE LIZZIE P. ALLEN SCHOLARSHIP.—Founded by the late Lizzie P. Allen, of Derby Line, Vermont.

THE CHARLES A. AND CORNELIA B. SKINNER SCHOLARSHIP.—Founded by the late Rev. Charles A. Skinner, D.D., and Mrs. Cornelia B. Skinner, of Cambridge, Mass.

The following scholarships are awarded under special conditions :—

THE GREENWOOD PRIZE SCHOLARSHIP IN ORATORY.—Founded by the late Mrs. Eliza M. Greenwood, of Malden, and given to such student as shall have made, as the result of faithful work, together with at least a fair degree of attainment, the greatest improvement in Oratory.

THE WENDELL PHILLIPS MEMORIAL SCHOLARSHIP.—Founded to perpetuate the name, fame, and influence of Wendell Phillips. This scholarship is to be awarded to a student who has completed the Freshman and Sophomore years, and he is to have the benefit of it during the remainder of his course. The beneficiary must be of sound body, high character, and ability in declamation and debate, and must comply with certain special conditions, including participation in a competitive debate of the applicants at the end of the Sophomore year. The specific conditions governing the award of this scholarship may be obtained by those intending to apply therefor from the Secretary of the Faculty, to whom application

should be made early in the Sophomore year. The income of this scholarship is at present seventy dollars.

THE MOSES TRUE BROWN SCHOLARSHIP.—A scholarship yielding fifty dollars annually, founded by the late Moses True Brown, of Sandusky, Ohio, formerly Professor of Oratory in Tufts College, for encouraging and assisting worthy students in the department of Oratory.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1898.—The sum of fifty dollars is given annually by the Class of 1898 to that Senior who at the end of the Junior year shall have maintained the highest excellence in a course of study broadly and wisely chosen.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1882.—The sum of one hundred dollars is given annually by the class of 1882 to that member of the College who best exemplifies the combination of ability in athletics and excellence in scholarship.

FUNDS FOR WOMEN

The Woman's Universalist Missionary Society of Massachusetts maintains a fund which is loaned to deserving women students, in sums of one hundred dollars, at four per cent. This fund now amounts to about six thousand dollars.

The Hettie Lang Shuman Memorial Fund was founded by Mr. A. Shuman, who presented one thousand dollars to the College, in memory of his wife. The interest of this fund is annually expended in aiding deserving women students.

PRIZES

GODDARD PRIZES.—In the second term of the academic year three prizes of *fifteen dollars* each are assigned from the Goddard Prize Fund, as follows :—

A prize for the best examination, by a member of the Junior or Senior class, on the sixty-fourth poem of Catullus, or a Satire of Juvenal, or an Epistle of Horace.

A prize for the best examination, by a member of the Junior or Senior class, on the life and works of Solon.

The examinations for the Latin and Greek prizes will be held during the first week in May. Due notice of time and place will be given.

A prize for the best examination in the Mathematics of the first year.

RHETORICAL PRIZES.—Three prizes are awarded as follows :—

A first prize of forty dollars, a second prize of thirty dollars,

and a third prize of twenty dollars. The preliminary competition will be open to all candidates for the degree of A.B., B.S., and B.D.

The rhetorical prizes are awarded by a committee, chosen by the Faculty, who judge the work presented by the competitors upon the public day appointed for that purpose. In order to enter the public competition, candidates, as well as their selections, must be approved by the Professor of Oratory. A preliminary competition is held about ten days before the competition announced in the calendar, at which a committee of the Faculty determine the contestants in the final and public readings.

ENTRANCE EXAMINATION PRIZES.—Two prizes, of *thirty and twenty dollars* respectively, are awarded for the best entrance examinations. No one will be considered a candidate for such prize unless he has passed the regular examinations in all the subjects required for admission to the College, and has been admitted without conditions. These prizes are payable at the end of the first term in College.

The foregoing prizes are not awarded, unless in the opinion of the respective judges there is sufficient merit in the several contests to warrant their distribution.

A regular day has been appointed for the annual announcement of the award of prizes and the assignment of Commencement parts,—the Wednesday before the beginning of the Thanksgiving recess.

COMMITTEE ON STUDENT EMPLOYMENT

It is the object of the committee on student employment to inform students concerning positions which may give regular occupation during available hours of term time, or which may be temporarily filled during the vacation periods. Students who wish to make application for any occupation should register their names, with a statement of their qualifications for any special work, with PROF. HARRY G. CHASE, Chairman of the Employment Committee, Room 22, Robinson Hall.

HONORS AND DEGREES

FINAL HONORS will be conferred at Commencement upon any member of the graduating class in the College of Letters who shall have attained Grade A in approved subjects aggregating not less than eighteen term hours in a major department, and an average of Grade B in the collateral subjects. Subjects marked in the catalogue with an asterisk (*) will not count for Honors. Those marked with a double asterisk (**) will be counted for Honors only when special requirements, to be defined by the instructors, have been complied with. Final Honors will be conferred only upon recommendation of the head of the department in which Honors are desired.

FINAL HONORS IN ELECTRICITY will be conferred at Commencement upon any member of the graduating class in the Engineering courses who shall have complied with the following conditions:—

In the two years immediately preceding graduation:—

1. He must have attained Grade A in the equivalent of six hours a week for a year in the subject.
2. He must also have attained Grade A in extra work in this or a cognate subject equivalent to three hours a week for a year.
3. He must have attained Grade B in the average of all his studies.

HONORABLE MENTION will be made in the Commencement program and in the annual catalogue of a student who has attained, during the two years immediately preceding graduation, Grade A in nine term hours and not less than Grade B in three additional term hours of approved work in one department. Subjects marked in the Catalogue with an asterisk (*) or with a double asterisk (**) are under the conditions explained above as applying to Final Honors.

Candidates for Honorable Mention are expected to report to the Office on or before May 1 the department or departments in which they look for such distinction.

THE DEGREE OF BACHELOR OF ARTS will be conferred at Commencement by the Trustees, on recommendation of the Faculty, upon students who shall have complied in a satisfactory

manner with the conditions governing the degree as stated under "Degrees" (see the Index).

THE DEGREE OF BACHELOR OF SCIENCE will be conferred upon students who shall have completed the Course in General Science, the Course in Chemistry, or the Medical Preparatory Course, complying in a satisfactory manner with the conditions stated on pages 101 to 104.

THE DEGREE OF BACHELOR OF SCIENCE in Civil Engineering, Electrical Engineering, Mechanical Engineering, or Chemical Engineering, will be conferred upon students who shall have completed the required course, as defined on pages 111 to 119.

Students of the courses in the College of Letters may so arrange their elective work as to make it possible to obtain the degree of Bachelor of Science in Civil Engineering, Electrical Engineering, Mechanical Engineering, or Chemical Engineering, after a graduate course of one year in the Engineering Department. See pages 148, 149, for particulars.

For the advanced degrees of MASTER OF ARTS and MASTER OF SCIENCE, see the announcement of the Graduate Department, pages 155 to 162.

Buildings and Equipment

The College buildings are eighteen in number. Ballou Hall contains recitation-rooms, the room of the President and Faculty, and the offices of the Dean, the Registrar, and the Bursar. It contains also the college bookstore. Other buildings are Barnum Museum; Goddard Chapel; Goddard Gymnasium; the Library; the Chemical Building; three dormitories,—East Hall, West Hall, Dean Hall, for men; Curtis Hall, containing the commons dining-hall, the post-office, and rooms for students; Metcalf Hall and the Start House, for women students. The Bromfield-Pearson School building is available for technical courses of the College. Two buildings, Miner Hall and Paige Hall, are devoted to the use of the Divinity School. Robinson Hall provides for work in certain of the physical sciences. A power-house has been added, supplying light, heat, and power to the engineering buildings.

The new library building, erected through the gift of one hundred thousand dollars by Andrew Carnegie, is now occupied. At the suggestion of Mrs. Carnegie it is called the Eaton Memorial Hall, in honor of Charles Henry Eaton, '74, former pastor of the Church of the Divine Paternity, New York City.

In the summer the gates in the wire fence surrounding the buildings are closed at 5 P.M. on week days and all day Sunday.

LIBRARY

In all, about sixty-six thousand bound volumes and forty thousand pamphlets are available for use. The College regularly receives more than two hundred periodicals. By favor of the late Senator Hoar the library is a depository for government publications. In the library building a reading-room, maintained by the students, supplies the daily and weekly papers. The student fund also provides a number of the popular and the more technical magazines. Separate rooms have been pro-

vided with facilities for the use of students working in the departments of History and Public Law, the Ancient Languages, the Modern Languages, Music, English, the Fine Arts, Philosophy, Political Science, Physics and Mathematics. The average annual increase by donation and purchase, for the last five years, has been about two thousand four hundred volumes.

In the general library is the collection of the Universalist Historical Society (six thousand volumes and several thousand pamphlets), to which, on application, students have free access. In Miner Hall is a selected reference library, for the use of theological students. In the Barnum Museum is the department library of Natural History, numbering more than twenty-eight hundred volumes and about sixty-eight hundred pamphlets. The Metcalf Musical Library is divided between the music rooms in Goddard Gymnasium, where the scores are kept, and the department room in the Eaton Memorial Library, which contains the collection of English works relating to music. About four hundred representative musical compositions, in form for use upon the automatic instruments in the music rooms, are available for use by students.

The library is open to all members of the College every day in the week, except Sunday, from 8.00 A.M. to 6 P.M.

BARNUM MUSEUM

The Barnum Museum of Natural History was built in 1883-84 by the late Phineas T. Barnum, who gave the College a fund for its maintenance and for the addition of two wings to the central building. One of these wings has been erected. In addition to laboratory rooms, it affords space for the display of the mineralogical and geological collections.

The College is also indebted to Mr. Barnum for the larger portion of its zoological collection. This serves to illustrate all groups of the animal kingdom, and is especially rich in skeletons and mounted skins of mammals, the whole being well adapted for the purposes of instruction. The botanical collection consists of an herbarium containing a representation of

the flora of New England, besides many specimens from Europe and the southern and western States. The geological collection contains representatives of the various types of rocks, as well as of fossils from all formations. The mineralogical collection embraces fine examples of most of the species.

The laboratories and lecture-rooms of the department of Geology are in the main Museum building. The geological laboratory is provided with petrological microscopes, instruments for making rock sections, and other instruments. The mineralogical laboratory possesses the apparatus necessary for the determination of minerals, the analysis of ores, and assay work. The biological laboratories are in the newly-erected wing. The laboratory for elementary work is furnished with all necessary facilities, while the laboratories (two in number) for advanced and research work have all the appliances needed for investigation on the lines of anatomy, histology, and embryology.

The Barnum Museum is open for the inspection of visitors from 8.30 A.M., to 5.00 P.M., every day but Sunday.

GODDARD GYMNASIUM

Goddard Gymnasium, the gift of Mrs. Mary T. Goddard, is well adapted to provide the prescribed class and individual work, and to furnish wholesome physical exercise for all. It is fitted with the apparatus usually seen in a good modern gymnasium, including facilities for light and heavy gymnastics, fencing, wrestling, basket ball, base ball, and the many indoor athletic sports. In the offices is a full set of anthropometric instruments for the physical examination of all students. There is a large gallery, with padded running track twenty-four laps to the mile. The dressing rooms, lockers, and baths are well lighted and commodious. The building is heated by steam and lighted by electricity.

ATHLETIC FIELDS

The old campus is just outside the gymnasium, and on it are tennis-courts, two base-ball diamonds, and a foot-ball field. Its

close proximity to the college buildings is of great advantage to all concerned.

Tufts College Athletic Field is the large inclosed field on College Avenue, where inter-collegiate contests are played. It includes two base-ball diamonds, a foot-ball field, and a quarter-mile, twenty-foot cinder track, for track athletics. Tennis-courts are provided for women students, and a separate gymnasium is planned, not far from Metcalf Hall.

While athletics are encouraged and generously supported by the College, they are made subsidiary to the requirements of the curriculum, and thus the genuine advantage of the student is safeguarded.

CHEMICAL BUILDING

The building of the department of Chemistry contains laboratories for general inorganic, organic, analytical, and metallurgical chemistry, a large lecture-room, library, and weighing room, and the private laboratories of the professors in charge. The rooms are provided with all the modern laboratory conveniences, and are well supplied with apparatus and chemicals.

ROBINSON HALL

Robinson Hall is a memorial to the late Charles Robinson, and is designed for the use of the department of Engineering. It contains the physical and electrical laboratories, and drafting rooms for the department of Civil Engineering. In addition to recitation rooms, and offices of the instructors, there is a large lecture hall.

PHYSICAL LABORATORIES. The laboratory of General Physics has a floor area of about 2500 square feet, and is provided with the necessary apparatus for quantitative work in mechanics, sound, light, and heat.

Among the more important pieces of apparatus may be mentioned several balances of German and American make; a dividing engine, a chronograph, and a spectrometer from the Société Gènevoise; an Elliott Brothers optical bench, an epidia-

scope, and a large microscope with accessories. A great deal of serviceable apparatus is in use that has been made in the college work-shops.

A large apparatus room is connected with the lecture hall and laboratories.

ELECTRICAL LABORATORIES. The testing laboratories are well equipped for general electric testing. The apparatus includes various makes of ammeters, voltmeters, wattmeters, galvanometers, electrometers, electro-dynamometers, resistance boxes, bridges, condensers, and standards of resistance, capacity, and electro-motive force.

The testing rooms are provided with direct-current supply at any voltage from 2 to 120 volts from the battery room, and with alternating current at 115 volts from the transformer.

The dynamo laboratory is situated in the basement, and includes in its equipment a variety of direct and alternating current machines, several of which have been designed and constructed in the college shops. Among these are a special high-frequency alternator of the Mordey type and a pair of 2-kilowatt rotary converters, specially constructed for laboratory purposes. The transformer room is provided with a variety of commercial types, and in addition with two special transformers, designed for 12,000 and 60,000 volts, for insulation testing.

The building is lighted throughout by gas and electricity, and heated from an adjoining steam plant by direct and indirect methods.

BROMFIELD-PEARSON BUILDING

The Bromfield-Pearson Building contains the offices, recitation rooms, and the lecture and drafting rooms required for conducting the special courses of the School. It is also equipped for the department of Drawing and Shopwork in the College. Abundant and uniform light is provided, and the drafting rooms are separated from the noise and confusion of the shops. The rooms are lighted by electricity from the adjoining Power Station, and power is furnished to the shops from the same source. One end of the building is used exclusively by the pattern and

machine shops. These are well equipped with modern tools and facilities for conducting the class work in mechanic arts.

THE POWER STATION

The Power Station is equipped with a one-hundred-and-twenty-five horse-power boiler, which supplies heat and power to the engineering buildings. It is also piped and equipped for experimental work in steam engineering.

The engine-room contains a twenty-five horse-power Sturtevant engine, directly coupled to a Mordey alternator, a forty horse-power Harrisburg Standard engine directly coupled to a direct-current General Electric generator, a twenty-five horse-power Buckeye engine, and a ten horse-power Columbia gas engine belted to a direct-current generator. A storage battery of sixty elements furnishes current for lighting, power, and experimental purposes.

Connected with the Power Station is a forge shop and foundry, which has been recently enlarged to accommodate the increasing number of students.

THE DORMITORIES

The halls for the accommodation of students in the College of Letters are six in number. East, West, Dean, and Curtis Halls, for men, are arranged with convenient rooms in suites, are warmed by steam, lighted by gas, and have good modern plumbing. These halls provide rooms for two hundred and fifty men. Metcalf Hall, with accommodations for thirty-two women students, is a gift to the College by Mr. Albert Metcalf, of Newton. The first floor contains the rooms of the matron, a reception-room, cloak-room, reading-room, and dining-room. The second and third floors have pleasant rooms for students, with ample bath and toilet conveniences on each floor. In the wing is the kitchen on the first floor, the servants' room on the second. Every safeguard of health is provided. The Start House furnishes another home for women, with a matron, and rooms for thirteen students.

Women students cannot be received unless they reside in the dormitories or with their families.

INSURANCE

Arrangements may be made through the Bursar's office whereby students in any of the dormitories can insure their personal effects, including books, furniture, and wearing apparel. The cost of such insurance is fifty cents for one hundred dollars for one year. Insurance is placed only in multiples of one hundred dollars, no risk is taken for less than one hundred dollars, and all premiums are payable in advance.

REGULATIONS CONCERNING COLLEGE ROOMS

The annual assignment of rooms will take place in the month of May, at a time appointed by the Bursar, due notice being given upon the official bulletin board. Students occupying any room may retain it for the following academic year by signing a new room-agreement. All rooms not thus provided for will be offered for rent to members of the three upper classes. Rooms not assigned at the annual allotment will be open for choice to members of the entering class, in the order of application.

The right to occupy a College room is given only to the student or students to whom it is assigned: neither exchanges nor transfers of rooms are allowed, except by consent of the Bursar.

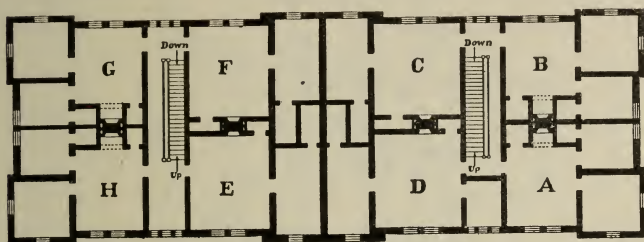
All men's rooms are for two students; except East 3, 12, 17, 22, 27, and 32, West 16½, and Curtis 4 and 12, which are for a single student each. Where more than two students occupy a room, the rent will be increased proportionately.

Each student receives his key on payment of fifty cents, which is refunded on the return of the key at the close of the College year.

The prices given for room rent in the lists below are for the whole room during the academic year, and include heat and care. All men's rooms are lighted with gas. Each suite is metered separately, and the occupants pay for the gas actually consumed. Metcalf Hall has both gas and electricity. Start House has electricity only. None of the rooms are furnished.

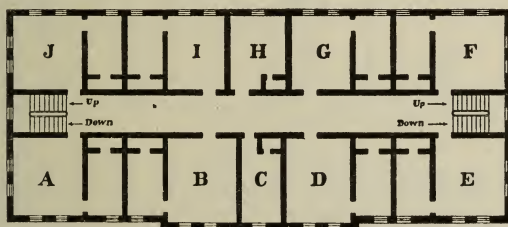
Room rent in the men's dormitories is in accordance with the following diagrams and prices:—

WEST HALL



FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	FOURTH FLOOR
A 1 . . \$128	A 5 . . \$182	A 9 . . \$140	A 13 . . \$96
B 2 . . 102	B 6 . . 128	B 10 . . 118	B 14 . . 80
C 3 . . 92	C 7 . . 100	C 11 . . 96	C 15 . . 74
D 4 . . 128	D 8 . . 172	D 12 . . 140	D 16 . . 96
E 17 . . 128	E 21 . . 172	E 25 . . 140	E 29 . . 96
F 18 . . 92	F 22 . . 100	F 26 . . 96	F 30 . . 74
G 19 . . 102	G 23 . . 128	G 27 . . 118	G 31 . . 80
H 20 . . 128	H 24 . . 182	H 28 . . 140	H 32 . . 96

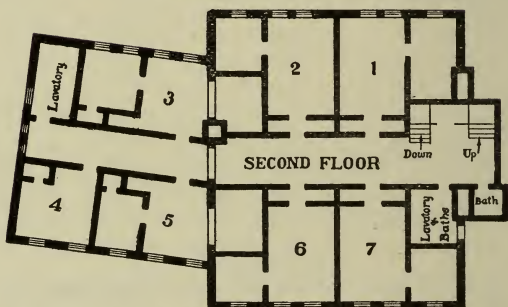
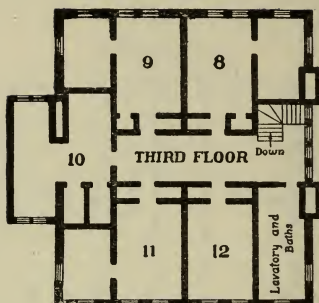
EAST HALL



BASEMENT	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR
A	A 6 . . \$ 96	A 15 . . \$110	A 25 . . \$102
B	B 7 . . 92	B 16 . . 110	B 26 . . 100
C	C	C 17 . . 43	C 27 . . 40
D	D 8 . . 92	D 18 . . 110	D 28 . . 100
E	E 9 . . 100	E 19 . . 118	E 29 . . 110
F 1 . . \$60	F 10 . . 100	F 20 . . 110	F 30 . . 100
G 2 . . 55	G 11 . . 80	G 21 . . 86	G 31 . . 80
H 3 . . 30	H 12 . . 40	H 22 . . 43	H 32 . . 40
I 4 . . 55	I 13 . . 80	I 23 . . 86	I 33 . . 80
J 5 . . 60	J 14 . . 86	J 24 . . 90	J 34 . . 86

TUFTS COLLEGE

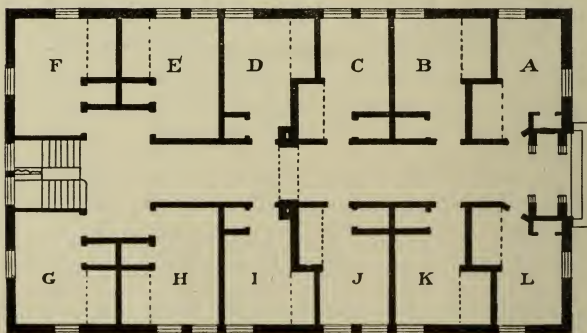
CURTIS HALL



1 . . \$80	4 . . \$ 50	7 . . \$85	10 . . \$85
2 . . 80	5 . . 100	8 . . 85	11 . . 85
3 . . 90	6 . . 85	9 . . 85	12 . . 45

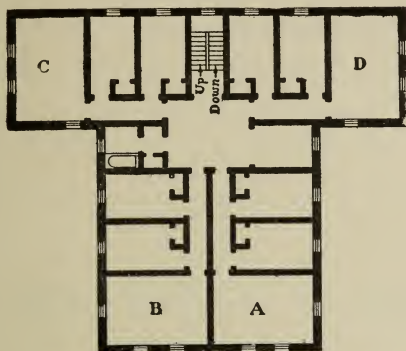
Nos. 4 and 12 are single rooms.

PAIGE HALL



In Paige Hall the plan of each floor is the same. From A to L, the rooms are numbered from 1 to 12 on the first floor; from 13 to 24 on the second, and from 25 to 36 on the third floor.

DEAN HALL



FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	BASEMENT
A 1 . . \$160	A 5 . . \$160	A 9 . . \$160	A 13 . . \$85
B 2 . . 160	B 6 . . 160	B 10 . . 160	B 14 . . 85
C 3 . . 160	C 7 . . 160	C 11 . . 160	C
D 4 . . 160	D 8 . . 160	D 12 . . 160	D

METCALF HALL AND START HOUSE

In the women's dormitories, the prices for room rent are as follows. In Metcalf Hall, room B, \$120; C, \$100; 6, 7, 14, and 15, \$170; 2, 3, 10, and 11, \$150; 4 and 12, \$90; 13, \$80. These rooms accommodate two students each. The following rooms are for a single student: 1, 8, 9, and 16, \$75; A, \$50; 5, \$40. In the Start House there is but one room for a single student: number 6, at \$40. The other rooms are for two persons: 1, 3, and 4, \$120; 5, \$110; 7, \$100.

THE MEDICAL SCHOOL

Faculty of the Medical School *

FREDERICK WILLIAM HAMILTON, A.M., D.D., LL.D.	
PRESIDENT	Tufts College
HAROLD WILLIAMS, A.B., M.D., LL.D.	528 Beacon St.
DEAN, and <i>Professor of the Theory and Practice of Medicine</i>	
FREDERIC MELANCTHON BRIGGS, A.B., M.D.	31 Massachusetts Ave.
<i>Professor of Clinical Surgery and Secretary of the Faculty</i>	
JOHN LEWIS HILDRETH, A.M., M.D., LL.D.	
<i>Professor of Clinical Medicine, Emeritus</i>	14 Garden St., Cambridge
CHARLES PAINE THAYER, A.M., M.D.	69 Gainsboro St.
<i>Professor of Anatomy, Emeritus</i>	
ERNEST WATSON CUSHING, A.B., M.D., LL.D.	168 Newbury St.
<i>Professor of Abdominal Surgery and Gynaecology</i>	
EDWARD OSGOOD OTIS, A.B., M.D.	381 Beacon St.
<i>Professor of Pulmonary Diseases and Climatology</i>	
HENRY JABEZ BARNES, M.D.	429 Beacon St.
<i>Professor of Hygiene</i>	
CHARLES ALFRED PITKIN, A.M., PH.D.	South Braintree
<i>Professor of General Chemistry</i>	
MORTON PRINCE, A.B., M.D.	458 Beacon St.
<i>Professor of Diseases of the Nervous System</i>	
HENRY BECKLES CHANDLER, C.M., M.D. . . .	34½ Beacon St.
<i>Professor of Ophthalmology</i>	
JAMES SULLIVAN HOWE, M.D.	437 Marlborough St.
<i>Professor of Dermatology</i>	
FRANK GEORGE WHEATLEY, A.M., M.D. . . .	North Abington
<i>Professor of Materia Medica and Therapeutics</i>	
EDWARD BINNEY LANE, A.M., M.D.	419 Boylston St.
<i>Professor of Mental Diseases</i>	

* The names of the Faculty of Medicine, after the President, the Dean, and the Secretary, are arranged so far as possible in the order of academic seniority. When only the street and number are given, the street is in Boston.

- EDWARD MAVERICK PLUMMER, M.D. . . . 416 Marlborough St.
Professor of Otology
- GEORGE HAMLIN WASHBURN, A.B., M.D. . 377 Marlborough St.
Professor of Obstetrics
- HORACE DAVID ARNOLD, A.B., M.D. 427 Beacon St.
Professor of Clinical Medicine
- JOHN JENKS THOMAS, A.M., M.D. 88 Bay State Road
Assistant Professor of Neurology
- CHARLES MELVILLE WHITNEY, M.D. 591 Tremont St.
Assistant Professor of Genito-Urinary Diseases
- WILLIAM ELISHA CHENERY, A.B., M.D. . . 222 Huntington Ave.
Professor of Laryngology
- JOHN LINCOLN AMES, A.B., M.D. 70 Chestnut St.
Associate Professor of the Theory and Practice of Medicine
- EDMUND CHANNING STOWELL, A.B., M.D.
602 Centre St., Jamaica Plain
Assistant Professor of Children's Diseases
- ROBERT WORTHINGTON HASTINGS, A.M., M.D.
Assistant Professor of Children's Diseases 45 Kilsyth Road, Brookline
- GEORGE ANDREW BATES, M.Sc., D.M.D. Auburndale
Professor of Histology
- EUGENE THAYER A.M., M.D. . . . 2683 Washington St., Roxbury
Demonstrator of Anatomy
- GEORGE WARTON KANAN, M.D. 419 Boylston St.
Professor of Clinical Gynaecology
- GEORGE VAN NESS DEARBORN, A.M., M.D., PH.D.
Professor of Physiology 6 Mason St., Cambridge
- FREDERIC JAY COTTON, A.M., M.D. 425 Marlborough St.
Assistant Professor of Clinical Surgery
- CHARLES FAIRBANK PAINTER, A.B., M.D. 372 Marlborough St.
Professor of Orthopedic Surgery
- TIMOTHY LEARY, A.M., M.D. . . 17 Grosvenor Road, Jamaica Plain
Professor of Pathology and Medical Jurisprudence
- CHARLES DAVISON KNOWLTON, M.D. 574 Warren St., Roxbury
Assistant Professor of the Theory and Practice of Medicine
- FRANK LEE DRUMMOND RUST, M.D. 755 Boylston St.
Associate Professor of Ophthalmology

HARRY HOMER GERMAIN, M.D. 416 Marlborough St.
Assistant Professor of Anatomy

OTHER INSTRUCTORS

WALTER ELMORE FERNALD, M.D. Waverley
Clinical Lecturer in Mental Diseases

EDWARD LAMBERT TWOMBLY, A.B., M.D. . . . 483 Beacon St.
Instructor in Clinical Gynaecology

FRANCIS JOSEPH KELEHER, A.B., A.M., M.D.
Instructor in Medical Jurisprudence 134 Center St., Newton

HENRY CRAWFORD LONG, M.S.D., M.S., LL.D.
Lecturer in Medical Jurisprudence 617 Tremont Bldg.

EDWARD ALLEN PEASE, A.B., M.D. . 1684 Beacon St., Brookline
Instructor in Clinical Surgery

FRANCIS JOSEPH WELLER, A.B., M.D. Hotel Nottingham
Assistant in Otology

JOHN NELSON COOLIDGE, A.B., M.D. . . . 409 Marlborough St.
Instructor in Clinical Medicine

DAVID NEWTON BLAKELY, A.B., M.D. . 255 Warren St., Roxbury
Assistant in Clinical Medicine

FREDERIC WARREN PEARL, A.B., M.D. . . . 284 Dartmouth St.
Instructor in Surgery and Assistant Demonstrator of Anatomy

FREDERICK STEARNS HOLLIS, S.B., PH.D. . Newton Highlands
Instructor in General and Medical Chemistry

CHARLES BALFOUR DARLING, A.B., M.D.
Instructor in Clinical Gynaecology 27 Rockville Park, Roxbury

WILLIAM ROBIE PATTEN EMERSON, A.B., M.D.
Assistant in Children's Diseases 657 Boylston St.

LAURENCE WATSON STRONG, A.B., M.D.
Instructor in Pathology and Bacteriology 1631 Beacon St., Waban

HARRY GRAY CHASE, B.S. Tufts College
Lecturer in Physics

RICHARD FITCH CHASE, M.D. 419 Boylston St.
Instructor in Clinical Medicine and Lecturer in Gastro-Intestinal Diseases

ARTHUR WILLARD FAIRBANKS, M.D. 591 Beacon St.
Instructor in Neurology

- RALPH CLINTON LARRABEE, A.B., M.D. 912 Beacon St.
Instructor in Clinical Medicine and Hematology
- ROBERT MICHAEL MERRICK, M.D. . . 15 Adams St., Dorchester
Instructor in Children's Diseases
- THEODORE CHARLES ERB, M.D. 159 St. Botolph St.
Instructor in Obstetrics
- FREDERICK WINSLOW STETSON, A.B., M.D.
Assistant in Clinical Medicine 504 Warren St., Roxbury
- FRANCIS DENNIS DONOGHUE, M.D. 864 Beacon St.
Instructor in Operative Surgery
- EDWARD ELIPHALET THORPE, M.D. 711 Boylston St.
Instructor in Medical Chemistry
- HENRY FOWLER RANSFORD WATTS, M.D. . 6 Monadnock St.,
Assistant in Clinical Medicine Dorchester
- THOMAS FRANCIS GREENE, M.D. . . . 322 Warren St., Roxbury
Assistant in Obstetrics
- JOHN PETER TREANOR, M.D. 3 Howes St., Dorchester
Assistant in Clinical Medicine
- GUY MONROE WINSLOW, A.B., PH.D. Auburndale
Instructor in Histology
- ARTHUR LAMBERT CHUTE, M.D. 350 Marlborough St.
Instructor in Genito-Urinary Diseases
- GEORGE HALE RYDER, PH.B., M.D. 719 Boylston St.
Assistant in Ophthalmology
- JOSEPH HENRY SAUNDERS, A.B., M.D. 356 Harvard St., Brookline
Assistant in Clinical Medicine
- FRANK PERCIVAL WILLIAMS, M.D. 419 Boylston St.
Instructor in Rectal Diseases
- WILLIAM HERBERT GRANT, M.D. 845 Boylston St.
Instructor in Clinical Gynaecology
- THEODORE CHAPIN BEEBE, JR., A.B., M.D. . 416 Marlborough St.
Instructor in Surgery
- WILLIAM GRAY ADAMS, M.D. 259 Beacon St.
Assistant Demonstrator of Anatomy
- JOHN SHEPARD MAY, M.D. 495 Warren St., Roxbury
Instructor in Obstetrics

- ELIZABETH ANGELA RILEY, M.D. 310 Bay State Road
Instructor in Gynaecology and Abdominal Surgery
- JOSEPH LIGNE LOCKARY, M.D., C.M. . 108 Warren St., Roxbury
Assistant in Obstetrics
- FREEMAN AUGUSTUS TOWER, A.B., M.D. Worcester
Lecturer in Neuropathology
- JAMES WILLIAM HINCKLEY, M.D. 18 Huntington Ave.
Instructor in Clinical Gynaecology
- SAMUEL WRIGHT CRITTENDEN, M.D.
Cor. Austin and Harvard Sts., Dorchester
Assistant in Mental Diseases
- LEON WALLACE MANSUR, M.D. 222 Marlborough St.
Instructor in Ophthalmology
- FRANK BUTLER GRANGER, A.B., M.D. 591 Beacon St.
Instructor in Electro-Therapeutics
- ELWOOD TRACY EASTON, M.D. 871 Boylston St.
Instructor in Ophthalmology
- EDWIN B. NIELSON, M.D. 657 Boylston St.
Instructor in Clinical Gynaecology
- LUTHER GORDON PAUL, M.D. 657 Boylston St.
Instructor in Clinical Surgery and Assistant Demonstrator of Anatomy
- GEORGE FRANCIS MCINTIRE, M.D. . . . 5 Dana St., Cambridge
Instructor in Clinical Surgery and Assistant Demonstrator of Anatomy
- ROBERT EATON ANDREWS, A.B., M.D. . 1044 Massachusetts Ave.,
Assistant Demonstrator of Anatomy Cambridge
- WILLIAM LAWTON THOMPSON, A.B., M.D.
Instructor in Obstetrics 14 Harvard Ave., Allston
- OLGA CUSHING-LEARY, M.D. . . 17 Grosvenor Road, Jamaica Plain
Instructor in Pathology and Bacteriology
- JOHN DONOVAN CLARK, B.S., M.D. . . . 416 Marlborough St.
Instructor in Anatomy
- WALTER FREEMAN NOLEN, M.D. 535 Beacon St.
Assistant Demonstrator of Anatomy
- LOUIS ARKIN, B.S., M.D. 1 Elm Hill Ave., Roxbury
Assistant in Hematology
- HERBERT SEYMOUR GAY, M.D. 167 Massachusetts Ave.
Assistant in Clinical Gynaecology

- JOHN ALLEN MACCORMICK, B.A., M.D. 672 Tremont St.
Assistant in Clinical Gynaecology
- FRANK EUGENE HASKINS, Ph.G., M.D. . . . 134 Huntington Ave.
Assistant Demonstrator of Anatomy and Instructor in Pharmacology
- WILLIAM RUSSELL MACAUSLAND, M.D. 166 Newbury St.
Assistant in Orthopedics
- ARTHUR CUSHING PEARCE, M.D. 543 Boylston St.
Assistant in Pathology and Bacteriology
- MALCOLM SEYMOUR, M.D. 405 Marlborough St.
Assistant in Hematology
- DANA WARREN DRURY, M.D. 101 Newbury St.
Assistant in Otology
- LEON SAMUEL MEDALIA, M.D. 483 Beacon St.
Instructor in Pathology and Bacteriology
- SIDNEY CURTIS HARDWICK, M.D. Quincy
Instructor in Physiology
- GRACE ELIZABETH ROCHFORD, M.D. . 68 Paris St., East Boston
Assistant in Bacteriology
- JOSEPH ALOYSIUS MEHAN, M.D. . . . 1053 Gorham St., Lowell
Assistant in General Chemistry
- RAYMOND EUGENE GATES, M.D. . . . 20 Albano St., Roslindale
Assistant in General Chemistry
- ELWIN HARRISON WELLS, M.D. Wakefield
Assistant in Physiology
- ANNIE ELZINA TAFT, M.D. . . . 374 Hammond St., Chestnut Hill
Assistant in Hematology
- HARRY HOWARD FLAGG, M.D. 30 Elm St., Charlestown
Assistant in Physiology
- DOMIZIO AUGUSTINE COSTA, M.D. . 131 Neptune Rd., E. Boston
Assistant in Pharmacology

LABORATORY ASSISTANTS

Anatomy

- BRAINARD F. CONLEY Ipswich
- FRANKLIN R. IRESON Marblehead
- HOLLIS L. SEAVEY Cambridge

Physiology

GEORGE E. PARISEAU, Pharm. D.	Worcester
WILFRED G. FUNNELL	Fall River
CLARENCE B. KENNEY	Sharon, Vt.
RALPH W. BICKNELL	Canton, Me.

Histology

SOLOMON H. RUBIN, M.D.	Boston
JAMES F. COUPAL, B.S.	Everett
RUSSELL B. SPRAGUE	Providence, R. I.

General Chemistry

JAMES J. McVEY	Haverhill
LEROY E. BURR	Kingston, N. Y.
EDWARD L. MARR	Malden
HENRY D. EATON	Boston

Medical Chemistry

PHILIP W. PLACE	Francestown, N. H.
CYRIL G. RICHARDS	Boston
BRACE I. LAWLEY	Skowhegan, Me.

Pharmacology

LAMERT OULTON	Port Elgin, N. B.
HJALMAR AHLSTROM	Boston

OTHER OFFICERS

HERBERT T. BROWN	Tufts College
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Bursar

LINA A. MAYO

Stenographer

LILLIAN M. TATTAN

*Clerk to Secretary***STANDING COMMITTEES OF THE MEDICAL SCHOOL**

The Dean and the Secretary are members of all Committees, *ex officiis*.

ADMINISTRATION.—The President, Drs. Wheatley and Leary

CATALOGUE.—Drs. Arnold, Bates, and Hastings

NOMINATIONS.—Drs. Wheatley and Cotton

LIBRARY.—Drs. Otis, Howe, Cushing, and Hastings (Librarian)

COURSE OF INSTRUCTION.—Drs. Leary, Arnold, and Bates

ADMISSION.—Drs. Leary, Dearborn, and Germain

WOMEN'S ADVISORY COMMITTEE.—Drs. Elizabeth A. Riley, Olga Cushing-Leary, and Edna Weil-Dreyfus

Student Government Board

With the intention of increasing the teaching efficiency of the School, and of eliminating, so far as possible, disciplinary relations ordinarily existing between instructor and pupil, a Student Government Board has been tentatively established.

The board is composed of nine members, as follows : the four presidents of the classes in the Medical School ; the three presidents of the classes in the Dental School ; one member at large for the Medical School, to be chosen by the presidents of the Medical classes ; and one member at large for the Dental School, to be chosen by the presidents of the Dental classes. The functions are, at present, chiefly advisory. To it are referred questions of discipline, and general matters relating to the interests of the student body.

The Board for the present year is as follows:—

CHAIRMAN

Herbert F. Gerald, M '09

SECRETARY

Matthew F. Carney, D '09

MEDICAL SCHOOL:

George P. Towle, '09

James R. Dunn, '10

Paul D. Blanchard, '11

Harry L. F. Locke, '12

DENTAL SCHOOL:

LeRoy E. Burr, '09

Fred R. Cerie, '10

Maurice V. Brown, '11

Tufts College Medical School

416 Huntington Avenue

Boston, Mass.

The Tufts College Medical School was established in Boston in 1893. Women are admitted upon the same terms as men. Since its establishment its rapid growth is believed to be without precedent in the history of American medical schools. It is now the largest medical school in New England. Three times it has been found necessary to change the location of the School to provide larger laboratory facilities for the constantly increasing number of students. In 1900 it was voted by the Trustees to provide a new building for the combined Medical and Dental departments. Land was purchased upon the corners of Huntington and Rogers avenues and Courtland and Drisko streets, and ground was broken for the new medical school early in the autumn. This building is occupied by the combined Medical and Dental Schools. It is constructed of Jonesport red granite and brick, with terra-cotta trimmings. It contains nearly an acre-and-a-half of floor space; is heated and ventilated throughout by both the direct and the indirect system; and is lighted by electricity. Modern improvements have been introduced in all departments, and no expense has been spared to make it the best-arranged structure of its kind in New England. The building can be reached by all Huntington Avenue Subway cars, except the Roxbury and Dorchester lines.

General Information

CLINICAL ADVANTAGES

Boston, as the largest city in New England, offers unusual facilities to the student of medicine. The amphitheatres of the Boston City Hospital, the Massachusetts General Hospital, the Massachusetts Charitable Eye and Ear Infirmary, are open to

students, and opportunity is thus afforded for witnessing the more extensive surgical operations.

Clinics are held at the Boston City Hospital, Boston Dispensary, Boston Insane Hospital, Carney Hospital, Free Home for Consumptives, Free Hospital for Women, House of the Good Samaritan, Massachusetts Charitable Eye and Ear Infirmary, Massachusetts School for Feeble Minded, Massachusetts State Sanatorium for Treatment of Tuberculosis, Mount Sinai Hospital, St. Elizabeth's Hospital, St. Mary's Infant Asylum, Tremont Dispensary, Women's Charity Club Hospital, and at various private clinics.

SESSIONS OF THE SCHOOL

The annual course of lectures begins on the last Wednesday in September of each year, and continues thirty-six weeks until the second Wednesday in June. The annual course of lectures for 1909-10 will commence Wednesday, September 29, 1909, at 3 o'clock P.M.

VACATIONS

There are no exercises at the School during three days at Thanksgiving, Christmas week, and the week beginning April 4, 1909, nor upon Washington's Birthday, Patriots' Day and Memorial Day.

OUTLINE OF THE COURSE

The course of study is a graded one, covering four annual sessions. In general the first two years consist of didactic and laboratory work; the last two years are chiefly clinical. During the latter part of the fourth year a certain latitude is allowed in the choice of elective subjects, but the course is otherwise uniform and the required subjects cover thoroughly the general ground of medicine, surgery, and the important special subjects.

For the first three years the school session is divided into two semesters of seventeen weeks each.

First Year

First Semester

Anatomy.—Lectures, recitations, demonstrations, and dissecting. *Twenty-eight hours a week.*

Histology.—Lectures, recitations, demonstrations, and laboratory work.
Nine hours a week.

Elementary Hygiene.—Lectures. *One hour a week, ten lectures.*

Second Semester

Applied Anatomy.—Lectures and demonstrations. *Three hours a week.*

Embryology.—Lectures, recitations, and laboratory work. *Three hours a week.*

Physiology.—Lectures, recitations, demonstrations, conferences, and laboratory work. *Twenty hours a week.*

General Chemistry.—Lectures, recitations, and laboratory work. *Eleven hours a week.*

Second Year

First Semester

Medical Chemistry and Toxicology.—Lectures, recitations, demonstrations, and laboratory work. *Twenty-three hours a week.*

Materia Medica and Therapeutics.—Lectures, recitations, and laboratory work in Pharmacology. *Twelve hours a week.*

Second Semester

Pathology.—Lectures, recitations, demonstrations, and laboratory work. *Twenty-five hours a week.*

Bacteriology.—Lectures, recitations, demonstrations, and laboratory work. *Five hours a week.*

The following subjects are given throughout the school year :

Physical Diagnosis.—Lectures, demonstrations, recitations and section exercises. *Forty-eight hours in all.*

Bandaging and Surgical Technique.—Lectures, demonstrations, and section exercises. *Twenty-four hours in all.*

Third Year

The following subjects are given throughout the school year :

Theory and Practice.—Lectures, and recitations. *Three hours a week.*

Surgery.—Lectures and recitations (three hours), and one *clinical lecture. *Four hours a week.*

Obstetrics.—Lectures, recitations, and demonstrations. (Attendance upon at least two cases of labor is required—see “clinics,” below)
Three hours a week.

Diseases of Children.—One lecture at the school and one *clinical lecture.
Two hours a week.

* Clinical lectures are given at the hospitals connected with the School. See page 223.

Medical Diagnosis (including preliminary work in Clinical Medicine).—Lectures and recitations (three hours a week), and *clinical lectures (two hours a week). *Five hours a week.*

Hygiene and Sanitation.—Lectures. *One hour a week.* This course gives, in addition, lectures and demonstrations in Sanitary Chemistry. *Sixteen hours.*

Ophthalmology.—*Twenty-four lectures.*

Laryngology.—*Twenty-four lectures.*

First Semester

Neurology.—*One *clinical lecture a week. Sixteen lectures and eight hours of laboratory work in Neuro-Pathology.*

Hematology.—*Sixteen lectures and twenty-four hours of laboratory work.*

Second Semester

Pulmonary Diseases and Climatology.—*One *clinical lecture a week.*

Gynaecology.—Lectures and recitations. *Three hours a week.*

Genito-Urinary Diseases.—*Sixteen lectures.*

CLINICS

In addition to the above exercises, the students of the third year attend clinics, in sections, in the following subjects:—

Clinical Medicine ;

Clinical Surgery ;

Obstetrics (each student is required to take charge of at least two cases of childbirth) ;

Pediatrics ;

Pulmonary Diseases ;

Ophthalmology ;

Laryngology

The work in clinics averages *twelve hours a week for the year.*

Each student is required to serve one month as assistant at a clinic in the surgical department, and one month as assistant at a clinic in the medical department of an approved hospital.

Fourth Year

The fourth year is divided into three periods:—

The first period (twelve weeks) ends at the Christmas recess. The second period (thirteen weeks) ends at the spring recess. The third period (six weeks) follows the spring recess.

* Clinical lectures are given at the hospitals connected with the School (see page 223).

The work of this year is essentially clinical, and largely in sections.

The work of the fourth year is required and elective.

The required work includes a continuation of the clinical work in the general subjects of medicine and surgery, and a grounding in the essentials of those specialties which have not been studied in the third year. The most of these special subjects are completed before the Christmas recess.

The elective work is a continuation of the work of the required course along selected lines. The student is required to take a certain amount of work, but may exercise his choice as to what he will elect from a large number of subjects offered.

Required Subjects

Class Exercises

Clinical Medicine (including Pulmonary Diseases).—Lectures and conferences at the School (two hours), and *clinical lectures (three hours). *Five hours a week, thirty weeks.*

Clinical Surgery.—Lectures and conferences at the School (two hours), and one *clinical lecture and operations (two hours). *Four hours a week, thirty weeks.*

General Medicine.—Lectures and recitations. *One hour a week, thirty weeks.*

Abdominal Surgery.—Lectures and recitations. *Three hours a week during first period (twelve weeks).*

Neurology.—One conference at the School and two *clinical lectures each week. *Three hours a week during first period (twelve weeks).*

Psycho-Pathology.—Two lectures at the School and one *clinical lecture. *Three hours a week during first period (twelve weeks).*

Pediatrics.—Lectures and conferences. *One hour a week during first period (twelve weeks).*

Orthopedic Surgery.—Lectures, recitations, and demonstrations. *Two hours a week during first period (twelve weeks).*

Otology.—*Clinical lectures. *Two hours a week during first period (twelve weeks).*

Rectal Diseases.—Lectures. *One hour a week during first period (twelve weeks).*

* Clinical lectures are given at the hospitals connected with the Schools (see page 223).

Electro-Therapeutics.—Lectures. *One hour a week during first period (twelve weeks).*

Clinical Gynaecology.—*Clinics (in small sections) *during first and second periods (twenty-five weeks).* Conferences *once a week during second period (thirteen weeks).*

Medical Jurisprudence.—Lectures and demonstrations. *One hour a week during first and second periods (twenty-five weeks).*

Dermatology.—*Clinical lectures. *Two hours a week during second and third periods (eighteen weeks).*

Operative Surgery and Surgical Anatomy.—This course is a sub-division of Clinical Surgery, and consists of lectures, demonstrations, and section work in operations on the cadaver. *Three hours a week for twelve weeks (second and third periods).*

Mental Diseases.—Lectures and clinical visits at hospitals for the insane. *Two hours a week during second and third periods (eighteen weeks).*

Genito-Urinary Diseases.—*Clinics during first period in sections. (*Twenty-four hours—see below.*)

Clinical Work in Sections

Twelve hours a week are assigned to clinical work in sections throughout the year. This work is given, as far as possible, in close relation to the instruction in each subject, and the time assigned is proportioned to the importance of the subject. The minimum assignment is *twenty-four hours*—in the special subjects of the first period. This is supplemented in the second and third periods by further clinical work in those subjects that the student elects. The clinics in Clinical Medicine and Clinical Surgery extend throughout the year. The other clinics include the subjects of:—

Neurology; Pediatrics; Pulmonary Diseases; Orthopedic Surgery; Abdominal Surgery; Clinical Gynaecology; Otology; Dermatology; Electro-Therapeutics; Genito-Urinary Diseases; Medico-legal autopsies.

Summary of Time

First Year	1268 hours
Second Year	1177 hours
Third Year	1248 hours
Fourth Year	1003 hours

Total 4696 hours

*Clinical lectures are given at the hospitals connected with the School. See page 223.

EXAMINATIONS**1. For Entrance**

The entrance examinations are conducted at the Medical School building, under the supervision of an officer of the College of Letters. They are given twice during the year, on Monday, June 7, and on Monday, September 20, 1909, at 10 o'clock A.M.

2. Promotion

The regular examinations for promotion on the subjects of the First, the Second, and the Third Year, are held at the end of each semester.

3. For Graduation

The regular examinations for graduation are held during the Fourth Year at three periods, and follow the termination of each of the three periods into which this year is divided (see page 226). At each of these periods examinations will be held in those subjects, required or elective, which end at that time.

4. Fall Examinations

(The fall *entrance* examinations are described above.) The regular fall examinations will commence Monday, September 13, 1909, at 10 o'clock A.M., and are given for the following purposes:—

(a) For students from other schools applying for advanced standing.

(b) For the removal of conditions.

Students intending to take the fall examinations (other than for entrance) are required to notify the Secretary on or before Saturday, Sept. 4, 1909.

The passing mark in all courses is 70% ; 80% of attendance is required in each course.

In all examinations (except those for entrance) each student must register by signing his name to the registration blank provided for that purpose. If a student fails to register in this manner he shall receive no credit for that examination.

Subjects of Instruction

ANATOMY

The course in anatomy is given throughout the first year. During the first half-year there are five lectures and three recitations weekly with the class. There are also special demonstrations by the instructors in the difficult parts of the work. In the dissecting room each student is required to dissect two parts, to the satisfaction of the Demonstrator of Anatomy, before taking the final examination. It is necessary for every student to dissect three parts before graduation. Record of attendance and of the quality of the work done in the dissecting room will be kept, and will largely determine the standing of the student in the class.

During the second half-year there are three exercises each week, one hour for applied surgical anatomy, one hour for applied medical anatomy, one hour for applied anatomy of special subjects, such as the gross anatomy of the nervous system, of the eye, of the nose, of the throat, etc.

PHYSIOLOGY

The course in physiology is given throughout the latter half of the first year. It constitutes half of the entire work required of the student during that period. The course consists of four recitations, two lectures, six hours of laboratory work, and three conferences for every student, each week, together with the preparation of a technical written paper, and extra demonstrations. At the end of each month there is an important written examination.

In the recitations, familiarity with the subject-matter of an assigned text-book of physiology, and of the syllabus, is required. The lectures set forth the principles of general and descriptive physiology, and suggest some of its relations to the allied sciences, especially anatomy. In the laboratory the stu-

dent has opportunity to acquire a degree of technical skill in the use of instruments and apparatus, demonstrating for himself meanwhile some of the most important facts of biological function, a specialty being made of an acquaintance with the nature of protoplasm. A strict practical examination may be held at the end of the year in the laboratory. The conferences give each student opportunity to become familiar with the literature on important interesting physiological topics, which are then presented in written reports and freely discussed by the whole class. Record both of the attendance and of the quality of the work done in the laboratory and recitation-room will be kept, and, with the conference, will largely help to determine the standing of the student in the class. In addition, a three-hour written examination covering the entire work of the year is held at the completion of the work, besides the important subsidiary written examinations, monthly, and weekly written tests.

A reviewing course in physics as related to physiology, given by the department of physics in the College of Letters, is a part of this course. This year the lectures and demonstrations are given by Professor Harry G. Chase.

Advanced and research work in physiology will be provided for competent students, by special arrangement with the head of the department. Work in this department is also offered to candidates for the degree of Master of Arts. The constant aim is to adapt the work of each student both to his needs and to his capabilities.

GENERAL CHEMISTRY

The course in general chemistry consists of descriptive chemistry and qualitative analysis, with so much of theoretical chemistry as is necessary for a proper understanding of the subject.

The classification of the carbon compounds is also taken up at considerable length, and special reference is made to those which are of interest in the study of medicine. The instruction is by lectures, recitations, and practical work by the students in the laboratory. There are five lectures, two recitations, and six

or more hours of laboratory work for each student, every week. Much attention is given to qualitative analysis for the sake of the valuable training which it imparts, and the knowledge of chemistry which is incidentally gained. The importance of this knowledge is evinced by the fact that it is the only non-professional subject that is required in most medical schools. The aim is to impart such information in chemistry as is necessary to the intelligent physician. At the same time any who wish to pursue the study further than is required of every graduate may do so by special arrangement.

Certificates of satisfactory completion of Chemistry 1, 2, and 3, in the academic department of Tufts College, will be accepted in the Medical School in place of General Chemistry. It is intended to make this course lead directly to the Medical Chemistry of the second year, and it includes much of the preliminary work of that course.

HISTOLOGY AND EMBRYOLOGY

The work in histology covers the first half of the school year, and is both didactic and practical. The practical work in the laboratory is emphasized. Here the student comes into the most intimate relation with the elements of the body, the legitimate objects of his study. He learns to use the microscope and to manipulate sections. Being required to draw what he sees, he forms a mental picture of the objects of study which he never forgets.

The department aims to bring before the student the latest utterance of the best authorities, and to present the subject from the standpoint of the medical student. It must be obvious that histology, dealing as it does with the tissue elements of the body in their normal condition, is vitally important in the study of pathology, when it is understood that it is morbid changes in these elements which constitute pathological conditions. The student's future study of pathology is kept constantly in mind, and the teaching of the department has a direct bearing upon that end.

Embryology will be taught during the second half-year.

There will be three exercises each week, in which the subject will be presented so far as to give the student a knowledge of the origin of the tissues in the embryo, and to furnish him with an understanding of such conditions as will aid him in the study of obstetrics. The department is furnished with microscopes, the use of which, on payment of a small fee, will be afforded to such as are unable to furnish instruments of their own.

Written exercises and recitations will form a part of the course. Ninety hours of laboratory work are required.

ELEMENTARY HYGIENE

During the first half of the Freshman year, elementary hygiene is taught, together with the benefits to be derived from pure and wholesome associations, with the object of developing high moral, mental, and physical qualities.

PHARMACOLOGY

Instruction in pharmacology consists of lectures, recitations, and laboratory exercises, twelve hours a week throughout the first half-year. Especial attention is given to the physiological action of drugs in its relation to their therapeutical application, and to the relation always existing between therapeutics and physiological and pathological laboratory work. The laboratory course is designed to familiarize the student with all medicinal preparations and processes, and consists of exercises in which the class in sections is led to this result practically.

Prescription writing and the metric system will receive careful attention. Such of the recent additions to *materia medica* as are deemed worthy will be properly considered.

PHYSIOLOGICAL CHEMISTRY, CLINICAL CHEMISTRY, AND TOXICOLOGY

In order to render the instruction most systematic and to bring the students into more intimate relation with these different branches of knowledge, allied yet differing greatly in many points, the following courses are offered :

Required Courses Given During the First Half-Year

I. PHYSIOLOGICAL CHEMISTRY. — Period eight weeks ; time required, eighteen hours of laboratory, three hours of recitation and two hours of demonstration weekly ; five examinations ; subjects covered, chemistry of proteins, carbo-hydrates, fats, bile, saliva, blood, milk, and normal constituents of urine, with quantitative analysis of the last three, and isolation of the products of artificial digestion by animal diastase, pepsin, trypsin, and lipase.

II. CLINICAL CHEMISTRY AND MICROSCOPY. — Period, five weeks ; time required as in I ; four examinations ; subjects : qualitative and quantitative analysis of urines, from the Boston City and Massachusetts General Hospitals, and stomach contents.

Microscopy of urinary sediments and feces, aided by demonstrations with the projection apparatus.

Diagnosis of renal and gastric diseases from chemical and microscopic findings in urine and gastric contents.

Optional Courses Given During the Second Half-Year

III. TOXICOLOGY. — Period, four months ; time, five hours weekly ; three examinations ; subjects : sources and symptomatology of volatile, metallic, alkaloidal and toxin poisoning.

Demonstrations of tests, and methods of isolation of poisons from foods, gastro-intestinal contents, and organs of the body.

Practical laboratory exercises by the students in the detection and isolation of poisons.

IV. RESEARCH WORK IN PHYSIOLOGICAL CHEMISTRY. — Students must obligate themselves to spend at least a half-year, and write a thesis upon the result of their investigation. This course is the same as that given in the Graduate Department for the degree of Master of Arts.

PATHOLOGY

The work in pathology and bacteriology will occupy the attention of the students during the second half of the second year. The instruction in pathology will consist of lectures, recitations, demonstrations, and practical laboratory work. It

will be the aim to develop in the student a thorough knowledge of the causes, course, and results of pathological processes. Daily lectures (five times a week) will be supplemented by daily recitations, based upon a syllabus covering the subjects of general pathology and special pathology.

Demonstrations of gross pathological specimens, obtained from operations and autopsies at the Boston City Hospital, the Massachusetts General Hospital, and other institutions, will be held frequently, as material is obtained. The supply of fresh material is very large, and it is usually possible to illustrate all of the common disease processes and many of the rare lesions, during the time when the class is at work. The work will include active participation by the students, who will be expected to section, study, and report upon specimens. Instruction in autopsy technique will be given in the amphitheatre of the School.

The work in pathological histology will include a three-hour exercise daily, five times a week. Students will mount and make drawings of sections obtained from human and experimental lesions, comprehending all the important subjects of general and special pathology. Considerable attention will be paid to surgical pathology. Preserved gross specimens illustrating the lesions studied will be demonstrated in connection with the laboratory exercises.

Written recitations will be held, without notice, at irregular intervals throughout the term. The standard attained by the student in these exercises will influence his final mark in the subject. Final examinations will be held at the end of the year, three hours of written and two hours of practical work. A report on gross specimens may be included.

Microscopes will be loaned to students for a small fee.

BACTERIOLOGY

Bacteriology is taught as a companion study with pathology. As infectious processes are taken up, the bacterial causes are studied in connection with the pathology of the diseases that they produce, in such a way that a comprehensive view of the

cause and effect may be obtained. Attention is paid to the technical details of laboratory work. The methods of bacterial action, the elaboration of toxines, the subject of immunity, and the important bearings of asepsis, antiseptis, and disinfection are especially emphasized. Particular attention is also paid to all practical bacteriological tests used in medicine.

The bacteriological laboratory presents adequate facilities for the intelligent demonstration of this subject. In addition to the usual laboratory work, facilities are afforded students for individual work. In connection with the demonstration of gross pathological specimens, a study of bacteria present is made, both by smear and culture. The recitations in this subject will include both oral and written exercises, and practical examinations will be held throughout the year.

The final examination will consist of two hours of written and one hour of practical work. The practical examination will consist of the examination of an unknown specimen, requiring the application of a bacteriological test of clinical value.

PHYSICAL DIAGNOSIS

This is an elementary course in the study of physical signs in health and disease, and is the foundation for the study of Clinical Medicine. Special attention is given, in the explanation of physical signs, to the principles of physics, and to the facts of anatomy and physiology upon which they are based. The course follows the instruction in Medical Anatomy, part of the course in Applied Anatomy of the first year, and leads to the course in Medical Diagnosis in the third year. The course consists of one lecture a week throughout the second year (thirty-two lectures), and fifteen exercises in sections, chiefly on elementary percussion and auscultation.

BANDAGING AND SURGICAL TECHNIQUE

Bandaging and surgical technique is given to students of the second year, and consists of practical work in applying bandages, dressings, splints, etc. The course is preceded by lectures and demonstrations by the Demonstrator of Bandaging and Apparatus. Upon the conclusion of the lectures, each student receives

individual instruction in the subject, and must show himself skilled in this work before completing the course.

During the second semester a series of lectures will be given upon surgical technique.

The course is a part of the work in Surgery.

THEORY AND PRACTICE OF MEDICINE

The work prescribed in the department of general medicine has been carefully planned. As the studies of the second year are intended to prepare the student for the study of the theory and practice of medicine, so is this course intended to prepare for the clinical courses of the fourth year. To this end a systematic series of lectures is offered, including such general diseases as are not considered in the special courses. Three hours a week are devoted to these lectures. They comprise a detailed description of each of the diseases under consideration. The diseases are discussed upon the uniform plan of a description of the affection, its synonyms, history, cause, pathological changes, symptoms, complications, diagnosis, prognosis, prevention, and treatment. Supplementary to these lectures, a weekly quiz class is held. By such thorough and systematic study of the diseases he is to meet in the clinical work of the fourth year, the student is prepared to appreciate in the fullest degree the varying phenomena of daily practice.

SURGERY

The course in surgery of the third year consists of lectures covering the principles of general surgery, attendance at clinics, recitations, and written quizzes. The instruction in this year prepares the student for the courses of the fourth year in clinical, abdominal, rectal, genito-urinary, gynaecological, and orthopedic surgery.

The class attends the lecture in clinical surgery at the Boston City Hospital one morning of each week throughout the school year, and a similar exercise at the Boston Dispensary, one morning each week after January 1. At the latter exercise, the time is principally devoted to demonstrating from the case the

various conditions which a practitioner meets in general practice. So far as possible, cases are grouped, and one morning of each week is devoted to the consideration of a single subject, with many cases illustrating the condition under discussion.

The class, divided into small sections, attends the regular surgical clinics of the School each week throughout the school year at the Boston City Hospital, the Boston Dispensary, and the Carney Hospital.

At some time after the course in bandaging and surgical technique, but before graduation, each student must present a certificate stating that he has served satisfactorily as surgical dresser for at least one month in some institution approved by the Faculty. All students who have not already taken the course in bandaging must make arrangements with the demonstrator to complete this course before January 1 of their third year.

LARYNGOLOGY

Instruction in the diseases of the nose and throat is both didactic and clinical. A systematic course of lectures is given to the third-year students in the amphitheatre of the School. These lectures are illustrated with colored diagrams, models, pathological specimens, and the exhibition of instruments. The opaque-projection apparatus is used at the close of each lecture.

Clinical instruction in laryngoscopy and rhinoscopy is given to small sections of the class at the Boston Dispensary. This work is required.

An elective course, mainly practical, is given to the fourth-year students during the last half-year. Special attention is paid to the technique of instrumentation, also to general diagnosis and treatment. By the actual examination of cases the student is made familiar with the diseases the family physician is expected to treat. During this course the students see the more important operations of the nose and throat. Practical lectures are given at the School. The class will visit, in sections, the clinics of the Boston Dispensary and St. Elizabeth's Hospital.

NEUROLOGY

The Department of Neurology is under the direction of Dr. Morton Prince, and the courses embrace in their scope required and elective work.

The work of the third year is required and consists of :

(1) Clinical and didactic lectures given at the Boston City Hospital once a week by Dr. Prince.

(2) Lectures on the anatomy, physiology, and pathology of the nervous system are given at the Medical School once a week by Dr. Tower, supplemented with instruction by sections in the laboratory in the microscopical examination of the normal and pathological nervous system.

Both these courses are given during the first half of the school year.

OPHTHALMOLOGY

The course in ophthalmology will be of the most practical character possible, being designed to give the general practitioner such knowledge of the subject as is most essential to his practice. The lectures will be given twice a week, the first half of the school year. For clinical work the class will be divided into small sections, preparatory to instruction at the Massachusetts Charitable Eye and Ear Infirmary and the Carney Hospital. The fourth-year elective students will be given personal instruction by all members of the department throughout the school year.

OBSTETRICS

Instruction in obstetrics consists of lectures, recitations, conferences, and clinical teaching. Lectures are illustrated by plates and the use of the manikin. Each student is required to care for at least two cases (clinical instruction being given with one of these), attending them throughout convalescence, and handing in a written report. Some of these reports will be read before the class, and subjected to discussion and criticism by class and instructor.

PULMONARY DISEASES AND CLIMATOLOGY

A chair of pulmonary diseases and climatology was estab-

lished some years ago, and Dr. Edward O. Otis, Physician to the Free Home for Consumptives, and the tuberculosis department of the Boston Dispensary, formerly president of the American Climatological Association, was elected head of this department. Medical climatology will receive special attention in relation to the climatic treatment of tuberculosis. The methods of sanatorium treatment will be discussed, and one or more sanatoriums visited during the year. "The tuberculosis class," "the day camp," and other modern methods of treating tuberculosis are also given attention.

A limited number of students of the fourth year who desire to assist at the tuberculosis clinic of the Boston Dispensary will have opportunity to do so, and should apply to Dr. Otis. In this department special attention is devoted to pulmonary tuberculosis, concerning which instruction is given, both by didactic and clinical lectures, to the students of the third and fourth years. Special clinical instruction, with opportunities for the physical examinations of patients, will be given to the students of the third and fourth classes, in small sections, at the clinic for pulmonary diseases in connection with the Boston Dispensary, and at the Free Home for Consumptives. The detection, treatment, and prevention of pulmonary tuberculosis will be thoroughly studied in this class.

CLINICAL TUBERCULOSIS

A special elective course in clinical tuberculosis is given by Professor Otis during the months of January, February, and March. It will pay special attention to the early stages of the disease, and will deal generally with the diagnosis, prognosis, treatment, and prophylaxis of pulmonary tuberculosis. There will be at least twenty-five clinical exercises, and a required essay, or examination.

GENITO-URINARY DISEASES

The required course in Genito-Urinary Diseases will commence in the second half of the third year, when the didactic lectures in this subject will be given. Clinical instruction will be given during the first half of the fourth year.

GYNAECOLOGY

Instruction in gynaecology is given both by lectures and clinical teaching. Lectures are given to the third-year students twice a week during the second term. Once a week a quiz is held on the lectures.

DISEASES OF CHILDREN

Instruction in the diseases of children consists of clinical lectures, didactic lectures, individual drill in practical history taking, and physical examination in an out-patient clinic and bedside ward visits. The clinical advantages offered to students in this department are extensive. Examples of nearly all the affections of infancy and childhood are shown, including the rare diseases which are seldom seen outside of the clinics of a large city. An exceptional opportunity is offered for instruction upon and observation of the contagious diseases in small sections at the Hospital for Infectious Diseases. The clientele at the Children's Department of the Boston Dispensary, at St. Mary's Infant Hospital, at the Tremont Dispensary, and during the summer months on the Floating Hospital, is available for the use of the Department.

MEDICAL DIAGNOSIS

The instruction in Clinical Medicine during the third year is given under the head of Medical Diagnosis. The course continues throughout the third year. Two hours a week at the school are devoted to lectures and recitations. This is supplemented by two clinical lectures at the Boston City Hospital, illustrating the subject. In addition the class, in sections, attends ward visits and medical clinics. An important part of this clinical work is given under the supervision of the Department of Pulmonary Diseases. The work in this course is closely correlated with the course in Theory and Practice.

HYGIENE AND SANITATION

Hygiene and sanitation are taught during the third year. The course includes public sanitation, industrial occupations, house and school construction and inspection, water supply,

sewerage systems, disinfection, quarantine, preventable diseases, vital statistics, sanitary codes, and medical ethics.

Students in the third year will be instructed by Dr. Hollis in the chemical and microscopical examination of air, foods, water, and sewage, and demonstrations will be given to show the detail work of public health officers, with the object of qualifying graduates for such positions.

HEMATOLOGY

The course in hematology consists of sixteen lectures and twelve two-hour laboratory exercises, — forty hours in all for each student during the first semester of the third year, — with occasional clinical lectures at the Boston City Hospital. It is given as a sub-department of Clinical Medicine, and it is the aim to adapt it to the needs of the future practitioner. The lectures deal with diseases of the blood from a clinical as well as from a laboratory standpoint. The first laboratory exercises consist of preliminary instruction in the technique of blood examination, followed by practical work in blood pathology. A permanent collection of some three thousand microscope slides and a number of excellent wall-charts are also available. A laboratory note-book has been prepared, with brief descriptions of technique, and blank pages for drawings, notes, and reports. It also contains the clinical histories of the cases studied in the laboratory.

CLINICAL MEDICINE

The aim of the work in Clinical Medicine is to give the student a practical acquaintance with disease. The instruction in this department begins with Medical Anatomy (part of the course in Applied Anatomy), in the second semester of the first year. Then follow the course in Physical Diagnosis in the second year and the course in Medical Diagnosis in the third year. The fourth-year course in Clinical Medicine is a continuation and farther development of this work.

The instruction consists of two clinical lectures at the Boston City Hospital, one clinical lecture (Pulmonary Diseases) at the Boston Dispensary, and two hours at the School. One of

these latter hours is given to conferences on cases which the students have studied, and the other is given partly to instruction in practical therapeutics and dietetics, and partly to exercises in conjunction with the Department of Pathology, on clinical pathology, — the clinical and pathological study of actual cases.

In addition, abundant opportunities for clinical study are offered, in ward visits and other medical clinics. This instruction is given chiefly at the Boston City Hospital, the Boston Dispensary, and the Free Home for Consumptives. The work in Pulmonary Diseases in the fourth year is regarded as part of the course in Clinical Medicine.

The marks throughout the various courses of the Department of Clinical Medicine are based on practical work and the report of cases, as well as on written examinations.

CLINICAL SURGERY

The work in clinical surgery for the fourth year consists of lectures, conferences, attendance at clinics and operations.

There is one amphitheatre clinic a week at the Boston City Hospital throughout the school year, at which cases are presented, examined, and fully discussed before the whole class. The material at hand in the Hospital presents in the course of the year opportunity to illustrate a very wide range of general surgery. Two supplementary lectures are given at the School, giving a systematic review of the field of clinical surgery.

Students of the fourth-year class in sections attend the surgical clinics at the Boston City Hospital, the Boston Dispensary, the Carney Hospital, and the Charity Hospital, from October 1 to May 15. At these exercises students examine the various cases and report to the instructor, in this way becoming practically familiar with diagnostic methods. Students in this class also have opportunities of administering ether and assisting at operations.

Working positions as surgical out-patient dressers are open to the students at the City Hospital, Boston Dispensary, and elsewhere, and this opportunity for practical work is taken advan-

tage of by many students. Opportunity is offered for a few picked men to serve as surgical dressers in the house, at the Boston City Hospital, for one or two months during the school year.

Clinical conference cases, two in number, are assigned to each student. Each of these cases must be carefully studied and written out in detail, giving the diagnosis, prognosis, and treatment, and concluding with a thorough discussion of all important points. The most instructive of these papers are selected for reading before the class, and are discussed by both instructor and class. The exercises in clinical conference commence some time after November 1.

OPERATIVE SURGERY AND SURGICAL ANATOMY

The work in operative surgery has been enlarged by the addition of a course in surgical anatomy, given by the department of anatomy in conjunction with the department of clinical surgery. This course, which includes three exercises a week for five weeks, consists of demonstrations of surgical landmarks upon the living model, the skeleton, and the cadaver, and a review of anatomy in general. Especial emphasis is laid upon that part of anatomy which is important in operative surgery.

Regional anatomy is demonstrated, and at the conclusion of the review given by the department of anatomy the important surgical operations of the region under discussion are demonstrated by members of the surgical staff. Thus surgery of the neck is first treated from the standpoint of surgical landmarks, pointed out upon the living model, the skeleton, and the cadaver. The surgical anatomy of the neck is then demonstrated on the cadaver, and at the conclusion of these exercises by the Department of Anatomy, the important surgical operations of the neck are demonstrated by members of the Department of Surgery.

The same course is pursued with all parts of the body, and at the conclusion of the anatomical teaching concerning any region, the special operations of that region are demonstrated by members of the surgical staff.

At the conclusion of the course the class is divided into small sections, and each section performs the various operations upon the cadaver in the dissecting room. Each section is supervised by an instructor.

The course in operative surgery and surgical anatomy as above outlined is a part of the required work in clinical surgery.

NEUROLOGY

The Neurology for the fourth-year class is both required and elective. The required courses consist of clinical and didactic lectures by Dr. Prince and Dr. Thomas; clinical exercises by Dr. Fairbanks, in sections, at which instruction is given in methods of examination of the patient, and diagnosis of the diseases of the nervous system; and clinical conferences, at which the student makes a written report of a case which he has himself studied and diagnosed. The report is then discussed by the class.

The elective course consists of clinical exercises by Dr. Thomas. In these clinical exercises the student has an opportunity to examine and study the patient for himself, thus becoming experienced in the methods of examination, and acquainted with nervous diseases as present in the subject.

The lectures and exercises are given at the Boston City Hospital during the first half of the school year.

PSYCHO-PATHOLOGY AND PSYCHO-THERAPEUTICS

The course in psycho-pathology is under the direction of Dr. Morton Prince, with the co-operation of Professor G. V. N. Dearborn. It consists of clinical and didactic lectures on mental physiology and the pathology of the psychoses. The course is required for fourth-year students. The lectures are given at the Boston City Hospital and at the Medical School, three times a week during the first half-year. Among the subjects included are: the mechanism of memory; integrative action of the nervous system; emotion; hypnotism; suggestion; the sub-conscious, co-conscious and unconscious; hysteria; neurasthenia; obsessions; dissociations of personality; and the

principles of psycho-therapeutics. These are only a few of the subjects treated.

MENTAL DISEASES

Instruction in mental diseases will be afforded by a course comprising didactic and clinical lectures, to be given weekly from January to the middle of May. Ten or more clinics will be held at the Boston Insane Hospital, where a large number of patients are received annually. Two clinics will be given also at the Massachusetts School for Feeble-Minded, at Waverly. It will be the aim of this course to allow the students to become familiar with the prevalent forms of mental trouble, the early symptoms of insanity, and with the methods of commitment. Especial attention will be given to mental defects in children.

PATHOLOGICAL TECHNIQUE

The course in pathological technique is offered to students of the fourth year. It is intended to develop in the student a special familiarity with the diagnostic tests which are used in pathological and bacteriological work. The course will include studies of pathological products from the standpoint of rapid diagnosis, as the preparation of free-hand and frozen sections, together with the rapid celloidin imbedding of fresh tissue; training in methods of description and the preparation of protocols; special bacteriological tests, notably the opsonin test and the preparation of vaccines; the study of agglutination by Wright's method; inoscopy, cytodiagnosis, etc.

This course is expected to be of particular value to students who intend to obtain house-officerships in small hospitals where regular pathological appointments are not made.

ABDOMINAL SURGERY

Instruction is given in abdominal surgery, including appendicitis, hernia, and the major operations on the female pelvic organs, by two lectures and one quiz weekly to fourth-year students during the first term, and by demonstrations on the cadaver, clinical conferences, and attendance of subdivisions of the class at operations.

MEDICAL JURISPRUDENCE

In most institutions instruction in legal medicine is limited to those subjects which prepare the graduate for the work of the medical examiner or coroner, in spite of the fact that only a small number of practitioners ever have opportunity to exercise these functions.

The course which will be offered to the fourth-year class is intended to be broader in scope and it will include :

A study of the legal relations of the physician to the public, to the profession, and to his patients, by Dr. F. J. Keleher, member of the Boston Bar.

Instruction in the preparation of the physician in cases of tort, from the legal standpoint, by Hon. Henry C. Long, member of the Boston Bar.

Instruction in the duties of the medical examiner, illustrated by practical demonstration of medico-legal cases, by Dr. Leary.

ORTHOPEDIC SURGERY

The work in orthopedic surgery consists of one lecture, four clinics, and one quiz each week of the first half-year, and of two exercises a week at the Carney Hospital during the second half-year, for those electing the subject. One of the clinics of the first half-year is in special orthopedic pathology. The work of the second half-year consists of practical exercises in diagnosis and treatment in the out-patient department, and of ward visits, with opportunity to see the operative work, especially the orthopedic surgery of the adult.

OTOLOGY

Instruction in otology consists of lectures on the anatomy, physiology, and pathology of the ear, at the Massachusetts Charitable Eye and Ear Infirmary. These lectures are illustrated by Politzer's charts of the human ear, models, anatomical specimens of the temporal bone, bone-corrosion preparations, and microscopical sections of the organ of hearing.

Clinical and practical instruction in otology is given to small sections of the class at the close of each lecture. The students witness the examination and treatment of patients, are invited

in class sections to be present at the major operations upon the ear, and to accompany the aural surgeon in his daily rounds through the wards.

An elective course for the fourth-year students consists of clinical work at the Massachusetts Charitable Eye and Ear Infirmary and the Carney Hospital.

DISEASES OF THE RECTUM

The course in diseases of the rectum will consist of weekly lectures during the first half-year at the School, and clinical instruction every morning at the rectal department of the Boston Dispensary. Each student will have ample opportunity to examine patients, and in suitable cases to apply treatment. Especial attention will be paid to so-called "office treatment" of this class of diseases.

DERMATOLOGY

The instruction in dermatology will consist of weekly lectures, from January to April. Also, from January to June, there will be three weekly clinics at the Boston Dispensary, where cases of skin diseases will be shown to the class, with an opportunity for each student to examine the cases personally.

GENITO-URINARY DISEASES

Clinical instruction in genito-urinary diseases is given at the genito-urinary department of the Boston Dispensary. All the students of the fourth year are required to attend the clinic in sections permitting individual instruction, during the first semester, and are taught the chief points of modern genito-urinary technique. Students electing this course receive additional instruction in sections during the second semester. As the number of patients attending this clinic is very large, each student has an opportunity to see many cases of genito-urinary diseases and to become familiar with their diagnosis and treatment.

ELECTRO-THERAPEUTICS

The course in electro-therapeutics will consist of twelve lectures, with occasional quizzes. It will include a brief review of the principles of electro-physics, the nature, methods of pro-

duction, and physiological action of the various forms of electrical energy, together with a brief discussion of their therapeutic uses and limitations.

CLINICAL GYNAECOLOGY

The abundant material at the Free Hospital for Women is utilized for the instruction of students of the fourth-year class. The almost continuous daily clinics (morning, afternoon, and evening) of the out-patient department provide an excellent course in methods of diagnosis and treatment of the diseases of women, superior to any other in New England. Each student receives nearly twenty hours of personal instruction at the clinics. In addition, the operations at this hospital, two days in each week, demonstrate all forms of major pelvic surgery. Clinical instruction is also given at the Boston Dispensary, at St. Elizabeth's Hospital, and at the Mt. Sinai Hospital. Weekly conferences are held during the second half-year, wherein papers are read by the students and discussed.

Preparation

The work demanded by the first year of the Medical School is severe. It has been found that high-school preparation is frequently inadequate. Hence prospective students of medicine are earnestly advised to pursue at least one year of preparatory study after graduation from the high school and before entering upon distinctively medical studies. They will obtain thus a more thorough grounding, and will also familiarize themselves with the laboratory methods which form the basis of the work of the first and second years of the Medical School.

Tufts College is prepared to give instruction adapted to the needs of such persons. They may enter the College as special students, and it is suggested that the studies most valuable to them are Chemistry, Biology, Physics, English, German, and French. The following is an outline of the studies advised for those who take one year in the College as preparatory to medicine:—

1. Biology 1. Two lectures each week on the general principles of biology and on the structure of animals and plants. Four hours of laboratory work. In the laboratory are dissected a dog-fish, a frog, a rat, and

various invertebrates; in the second half-year, examples of the various groups of plants.

2. Chemistry 1. Two lectures and six hours of laboratory work, each week. The lectures cover general theoretical and descriptive inorganic chemistry. The laboratory work is devoted to the principal elements and their compounds.

3. Physics 1. Three lectures a week, on the general principles of physics.

4. English 1 and 2. Three hours a week, of instruction in composition and rhetoric.

5. German 1. Three hours a week: grammar, reader, and written exercises.

6. French 1. Grammar, reader, and composition.

(French 2 or 3, or German 2 or 3, is advised for those who have had preliminary training.)

TEXT-BOOKS

[For the session 1908-09]

The first book mentioned is preferred as a text-book, the others being recommended as collateral reading.

Anatomy.—Gray, Morris, Cunningham, Eisendrath, Haynes's Dissector.

General Chemistry.—Simons's Manual of Chemistry, Witthaus, Storer and Lindsay, A. H. Elliott's Qualitative Analysis.

Histology.—Syllabus, Böhm and Davidoff, Stohr, Ferguson, Bailey.

Physiology.—Syllabus, Dearborn's Text-Book of Physiology, Howell, Landois, Verworn, Schäfer, Morat, Hutchison.

Bacteriology.—Syllabus, Muir and Richie, Park, Levy and Klemperer, McFarland, Abbott, Lehmann and Neumann, Sternberg.

Materia Medica and Therapeutics.—Hare, United States Dispensatory, Gerrish's Prescription Writing.

Medical Chemistry.—Austin's Manual of Clinical Chemistry, Rockwood's Manual, Syllabus, Simons's Physiological Chemistry, Dwight's Toxicology. Collateral Reading: Hammarsten's Physiological Chemistry, Peterson and Haines's Text-book of Legal Medicine and Toxicology.

Pathology.—Syllabus, Stengel, Ziegler, Coplin, Mallory and Wright's Technique, Durck's Pathological Histology, Cohnheim, Green, American Text Book.

Physical Diagnosis.—DaCosta's Physical Diagnosis, Ander's Physical Diagnosis.

Children's Diseases.—Holt's Diseases of Infancy and Childhood, Kerley's Treatment of Children's Diseases, Cotton's Medical Diseases of In-

fancy and Childhood, Thompson's Clinical Examination and Treatment of Sick Children.

Gynaecology.—Greig-Smith, Byford, Dudley, Kelly, Reed.

Hematology.—Ewing's Clinical Pathology of the Blood.

Hygiene.—Bergey, Principles of Hygiene; Egbert's Hygiene and Sanitation.

Laryngology.—Coakley, Knight, Kyle, Shurley.

Medical Diagnosis.—Musser's Medical Diagnosis.

Obstetrics.—Hirst, Reynolds, Jewett, American Text-book.

Ophthalmology.—Fuch, Swanzey, May.

Practice of Medicine.—Osler, Tyson, Forcheimer's Prophylaxis and Treatment, Anders's Practice of Medicine, Thompson, Strümpell, Eichhörn.

Pulmonary Diseases.—Babcock's Diseases of the Lungs.

Surgery.—Brewer, International Text-book, American Text-book, Wharton and Curtis, Stimson on Fractures and Dislocations.

Clinical Gynaecology.—Dudley, Garrigues.

Clinical Medicine.—Osler's Practice of Medicine, Wood and Fitz's Practice, Ander's Practice of Medicine, Forcheimer's Prophylaxis and Treatment.

Clinical and Operative Surgery.—Brewer, International Text-book, American Text-book, Wharton and Curtis, Roberts, Stimson on Fractures and Dislocations, Scudder on Treatment of Fractures, Binney's Operative Surgery, Treves's Surgical Anatomy.

Dermatology.—Diseases of the Skin by Hyde and Montgomery, Duhring, Stelwagon, Crocker, Kaposi, Besmer.

Diseases of the Rectum.—Kelsey, last edition; Ball, last edition; Tuttle, Gant, second edition.

Genito-Urinary Diseases.—Keyes, Taylor, Morton, Caspar.

Mental Diseases.—Brower and Bannister's Practical Manual of Insanity, Diefendorf's Clinical Psychiatry, Berkely's Mental Diseases, Wood's Reference Handbook, article on Insanity, Clouston's Clinical Lectures on Mental Diseases, Tuke's Dictionary of Psychological Medicine, E. Regis's Practical Manual of Mental Medicine, Outlines of Psychiatry by Wm. A. White.

Neurology.—Oppenheim, Church and Peterson,

Orthopedics.—Bradford and Lovett, last edition.

Otology.—Buck, Politzer and Bennett's System of Diseases of the Ear, Throat, and Nose.

Medical Dictionary.—Gould, Dunglison, Dorland.

Requirements

FOR ADMISSION TO THE FIRST-YEAR CLASS

Candidates for admission to this School, except as hereafter stated, must pass a written entrance examination in English, Algebra, Plane Geometry, Physics, Latin, and one subject to be chosen from the following: American History, Biology, Chemistry, French, or German.

(a) English: a composition of two hundred words, to be criticised in relation to expression of thought, construction of sentences, punctuation, spelling, and handwriting. The subjects for the examination in 1909 will be chosen from the following:—

(1) Shakespeare's Merchant of Venice; (2) Thackeray's Henry Esmond; (3) Burke's Speech on Conciliation with America; (4) Scott's Ivanhoe.

Every candidate is expected to have read intelligently all the books prescribed.

(b) Algebra: the fundamental operations, factors, fractions, simple equations, simultaneous equations of the first degree, involution and evolution, exponents, and quadratic equations. Texts similar to those of Wells or Wentworth are suggested for study.

(c) Plane Geometry.

(d) Physics: an examination suited to those who have studied such text-books as Gage's Elements of Physics, or Carhart's and Chester's Elements of Physics.

(e) Latin: a sight translation of elementary Latin; as, for example, the first fifteen chapters of Caesar's Commentaries; also the translation into Latin of easy English sentences involving the same vocabulary.

(f) In addition to the above, the candidate must present himself for examination in *one* of the following subjects:—

1. American History: The text-book suggested is McLaughlin's History of the American Nation.

2. Biology: The text-books suggested are Colton, Zoology, Descriptive and Practical; Jordan, Kellogg and Heath, Animals; Kingsley, Elements of Comparative Zoology; Needham, Lessons in Zoology.

3. Chemistry: The text-book suggested is Newell's.

4. German: Kayser and Montesu's Brief German Course, or Edgren and Fossler, or the "first part" of the Joynes-Meissner Grammar, together with some seventy-five pages of easy German from such texts as are commonly read in the first year of the preparatory school, will represent the amount of preparation expected.

5. French: Grandgent's Short French Grammar, or the "first part" of any one of the commonly used grammars, together with about one hundred pages of easy French (as above).

In modern languages the equivalent of one year's study, with four periods a week, is required.

Students who have failed in not more than three of these subjects may be admitted, subject to condition.

Students who have failed to remove their entrance conditions before the beginning of the second year will be catalogued with the first-year class.

The place and dates of the entrance examinations for the session 1909-10 are given on page 229.

EXCEPTIONS.—Graduates of approved colleges or universities, graduates of approved high and preparatory schools, and students holding Regents' certificates of the State of New York are admitted without examination.

Advanced Standing

Allowance is made for time spent in the study of medicine in other accredited medical schools, but no credit is given for examinations passed in other schools, except by special vote of the Committee on Instruction.

Students presenting evidence of a course equivalent to the

course in general chemistry given in the first year in this School are regarded as having anticipated this subject, upon passing the fall examination.

PROMOTION

To Second-Year Class

Students who have passed a majority of the first-year examinations, and who have removed all entrance conditions, are admitted to the second-year class. Students are required, however, to have qualified in General Chemistry before they are eligible to the Medical Chemistry of the second year.

To Third-Year Class

Students of the second-year class who have passed all the first-year examinations, and a majority of the second-year examinations, are admitted to the third-year class.

To Fourth-Year Class

Students who have passed all the studies of the first and the second year, and a majority of the studies of the third year, are admitted to the fourth-year class. No other students are admitted to this class, except by special vote of the Faculty.

GRADUATION

For the Degree of M.D.

Candidates for the degree of Doctor of Medicine must have fulfilled the following requirements:—

1. They must furnish certificates that they are twenty-one years of age.
2. The Faculty must be satisfied of their good moral character.
3. They must have attended four full courses of medical study at some accredited medical college, the last of which shall have been at this School as members of the fourth-year class, and no two courses in the same twelve months.
4. They must have passed all the required examinations, and have performed the required amount of laboratory and clinical work.

5. They must have satisfactorily dissected one half of the body, under the direction of a demonstrator of anatomy.

6. They must have paid all fees.

CHANGE OF REQUIREMENTS

The Faculty reserve the right to change all requirements without further notice.

HONORS

Students who have attended four full courses of lectures at this School, and have obtained an average of ninety per cent. in their examinations, shall be eligible to "*summa cum laude*"; and students who have obtained an average of eighty per cent. shall be eligible to "*cum laude*," in connection with the degree received.

STANDING AND CERTIFICATES

At the end of the session a statement of his standing for the year is sent by mail to each student. These certificates must be preserved for future reference. No marks will be sent or credit given to any student who is in arrears with the Bursar.

FEES AND EXPENSES

A matriculation fee of *five dollars* is payable each year.

A charge of *one hundred and fifty dollars* for tuition is payable in advance.

If desired, the tuition may be paid in instalments, in which case an additional charge of five dollars is made, and the fees are then paid as follows:—

First payment:—Five dollars for matriculation fee and seventy-five dollars on account of the tuition, a total of *eighty dollars*, payable at the beginning of the first semester.

Second payment:—Seventy-five dollars, the balance of the tuition, and five dollars, the additional charge, a total of *eighty dollars*, payable at the beginning of the second semester, or before February 1.

There is no charge for anatomical material or for laboratory supplies.

No student will be admitted to the exercises of the first half-

year who has not paid his matriculation fee and at least one-half the tuition, and no student will be admitted to the exercises of the second half-year who has not paid his fees in full.

Students leaving the school have no claim for tuition paid.

Students who have failed twice in a subject are required to pay a fee of five dollars for each subsequent examination in that subject.

POST-GRADUATE FEES

Post-graduate fee for graduates of other schools . . .	\$150.00
Single course	50.00
Post-graduate fee for graduates of this School . . .	60.00
Single course	30.00
Anatomical material	at cost

The Bursar of the College will be at the School Monday, Wednesday, and Friday, 2.30 to 5.00 P.M., from October 1 to June 1.

There are no scholarships connected with the School.

The expenses of living in Boston need not exceed those in small cities and villages. Good board, including room, fire, and light, can be obtained in the vicinity of the school at from \$5.50 to \$7 a week. Students will not be allowed to occupy rooms disapproved by the Faculty.

LIBRARIES

The students of this School have free access to the Medical School Library, to the Library of Tufts College, to the Boston Public Library and to the Boston Medical Library.

The library at the Medical School is open daily from 9.00 a. m. to 5.00 p. m., except Sundays and holidays. This library is intended to provide *text books for reference*, and the latest editions of all text books used in the school are furnished. These cannot be taken from the Reading Room. In addition, the library contains a large number of reference books in general medicine and general surgery, and in all special branches of each. These works are loaned to the student free of charge, and can be taken out. Complete files of various medical journals provide a valuable addition to the school library.

The Boston Medical Library, which is situated near the School, has one of the largest and most complete collections of medical works in existence. It contains not only bound volumes of every important book in medical literature, but also a very extensive collection of monographs and pamphlets on special subjects. All the leading medical journals are on file for inspection. The Boston Medical Library extends its privileges, under certain conditions, free of charge to students of this School. Its rooms are open daily from Oct. 1 to May 31, from 9.30 a. m. to 10.00 p. m., except Sundays and holidays. The hours on Saturday are from 9.30 a. m. to 6 p. m.

APPLICATIONS

Students who intend to enter the School for the first time must obtain from the Secretary an application blank, which they are required to fill out and return to him. Application blanks will be mailed upon request.

REGISTRATION

Registration is required of all students, each year. *Registration blanks for the session 1909-10 must be filled out and deposited with the Secretary on or before October 9, 1909.* Registration is conducted at the school building only.

Summer Courses

The following subjects are offered during the summer months:—

PHYSIOLOGY

A course in physiology will be given during the months of June and July by, or under the direction of, the Professor of Physiology. For particulars of the course application should be made to Dr. Dearborn.

HISTOLOGY

A summer course will be given under the direction of the Professor of Histology. Particulars as to the scope of this work, and the fee, may be learned upon application to Dr. Bates.

MEDICAL CHEMISTRY

A summer class in medical chemistry is conducted by Dr. Thorpe. This is a laboratory course, and is given in the laboratory of the department of Medical Chemistry. For further particulars, apply to Dr. Thorpe.

THE DENTAL SCHOOL

Faculty of the Dental School*

FREDERICK WILLIAM HAMILTON, A.M., D.D., LL.D.	
PRESIDENT	Tufts College
HAROLD WILLIAMS, A.B., M.D., LL.D.	528 Beacon St.
DEAN, and <i>Professor of the Theory and Practice of Medicine</i>	
FREDERIC MELANCTHON BRIGGS, A.B., M.D.	
	31 Massachusetts Ave.
SECRETARY, and <i>Professor of Clinical Surgery</i>	
CHARLES PAINE THAYER, A.M., M.D.	69 Gainsboro St.
<i>Professor of Anatomy, Emeritus</i>	
HENRY JABEZ BARNES, M.D.	429 Beacon St.
<i>Professor of Hygiene</i>	
CHARLES ALFRED PITKIN, A.M., PH.D.	South Braintree
<i>Professor of General Chemistry</i>	
EDWARD WALTER BRANIGAN, A.M., D.D.S.	
<i>Professor of Clinical Dentistry</i>	2 Commonwealth Ave.
FRANK GEORGE WHEATLEY, A.M., M.D.	North Abington
<i>Professor of Materia Medica and Therapeutics</i>	
JOSEPH KING KNIGHT, D.M.D.	Hyde Park
<i>Professor of Prosthodontia</i>	
GEORGE ANDREW BATES, M.Sc., D.M.D.	Auburndale
<i>Professor of Histology</i>	
FREDERICK MORTIMER HEMENWAY, D.M.D. .	175 Tremont St.
<i>Professor of Prosthetic Dentistry</i>	
WILLIAM ELISHA CHENERY, A.B., M.D. . .	222 Huntington Ave.
<i>Professor of Diseases of the Nose and Throat and Instructor in Oral Syphilis</i>	
TIMOTHY LEARY, A.M., M.D. . .	17 Grosvenor Road, Jamaica Plain
<i>Professor of Pathology and Bacteriology</i>	
EUGENE THAYER, A.M., M.D. . . .	2683 Washington St., Roxbury
<i>Demonstrator of Anatomy</i>	

* When only street and number are given in the address, the street is in Boston. With the exception of the President, the Dean, and the Secretary, the names are arranged as far as possible in the order of academic seniority.

GEORGE VAN NESS DEARBORN, A.M., M.D., Ph.D.

Professor of Physiology

6 Mason St., Cambridge

BYRON HOWARD STROUT, D.D.S. Taunton

Assistant Professor of Operative Technics and Instructor in Anesthesia

WALTER IRVING BRIGHAM, D.M.D. South Framingham

Assistant Professor of Operative Dentistry

FRANK ALEXANDER DELABARRE, A.B., D.D.S., M.D.

Assistant Professor of Orthodontia

164 Newbury St.

HARRY HOMER GERMAIN, M.D. 416 Marlborough St.

Assistant Professor of Anatomy

OTHER INSTRUCTORS

EDGAR OSGOOD KINSMAN, D.M.D. . . 15 Brattle Sq., Cambridge

Instructor in Clinical Dentistry

FRED CARVILL MERRILL, D.D.S. Wollaston

Instructor in Prosthetic Dentistry

WILLIAM RICE, D.M.D. 16 Arlington St.,

Instructor in Clinical Dentistry

WILLIAM PRESTON HOUSTON, D.M.D. . . . 419 Boylston St.

Instructor in Clinical Dentistry

WALTER SUMNER KENYON, D.D.S. Providence, R. I.

Instructor in Clinical Dentistry

HENRY HILDRETH PIPER, A.B., D.M.D. . Winter Hill, Somerville

Instructor in Clinical Dentistry

FREDERICK WARREN PEARL, A.B., M.D. . . 284 Dartmouth St.

Assistant Demonstrator of Anatomy

IVAN ALEXIS TEOFIL CENTERVALL, D.M.D. . . 2 Park Square

Instructor in Clinical Dentistry

KNUT JOSEPH LUTTROPP, D.M.D. 419 Boylston St.

Instructor in Porcelain Work

JOHN WOOD FORBES, D.M.D. 419 Boylston St.

Instructor in Clinical Dentistry

LAURENCE WATSON STRONG, A.B., M.D.

Instructor in Pathology and Bacteriology 1631 Beacon St., Waban

HARRY GRAY CHASE, B.S. Tufts College

Lecturer in Physics

- JOSEPH LEE CLAIR TAYLOR, D.M.D. 108 Dudley St.
Instructor in Clinical Dentistry
- CHARLES HARVEY DAVIS, D.D.S., . 24 High St., Pawtucket, R. I.
Instructor in Clinical Dentistry
- CHARLES ALEXANDER MCGINLEY, D.M.D. . . 194 Boylston St.
Instructor in Clinical Dentistry
- DANIEL ARTELL NASON, D.M.D. 4 Pleasant St., Revere
Instructor in Clinical Dentistry
- WYMAN HORACE STREETER, D.M.D. 100 Boylston St.
Instructor in Clinical Dentistry
- GUY MONROE WINSLOW, A.B., PH.D. Auburndale
Instructor in Histology
- WILLIAM MARTIN FLYNN, D.M.D. . . 474 D Broadway, S. Boston
Instructor in Clinical Dentistry
- JOHN HANCOCK EATON, D.M.D. Roslindale
Instructor in Clinical Dentistry
- BURLEIGH CHILDS GILBERT, D.D.S. Stoneham
Instructor in Clinical Dentistry
- JOHN RODERIC MACKINNON, D.M.D. 606 Tremont St.
Instructor in Clinical Dentistry
- GEORGE FRANCIS MCINTIRE, M.D. . . . 5 Dana St., Cambridge
Assistant Demonstrator of Anatomy
- WILLIAM GRAY ADAMS, M.D. 101 Newbury St.
Assistant in Anatomy
- ERVIN ARTHUR JOHNSON, D.M.D. 176 Federal St.
Instructor in Clinical Dentistry
- FREDERICK BOOTH STEVENS, D.M.D. . Everett Sq., Hyde Park
Instructor in Clinical Dentistry
- HENRY STETSON ROBINSON, D.M.D. Attleboro
Instructor in Clinical Dentistry
- SVERKER LUTTROPP, D.M.D. 30 Huntington Ave.
Instructor in Clinical Dentistry
- ROBERT EATON ANDREWS, A.B., M.D. Cambridge
Assistant Demonstrator of Anatomy
- LUTHER GORDON PAUL, M.D. 657 Boylston St.
Assistant Demonstrator of Anatomy

- OLGA CUSHING-LEARY, M.D. . 17 Grosvenor Road, Jamaica Plain
Instructor in Pathology and Bacteriology
- WALTER GEORGE BRIDGE, D.M.D. 367 Boylston St.
Instructor in Prosthetic Dentistry
- JOHN DONOVAN CLARK, B.S., M.D. 416 Marlboro St.
Instructor in Anatomy
- WALTER FREEMAN NOLEN, M.D. 535 Beacon St.
Assistant Demonstrator of Anatomy
- FARQUHAR DONALDSON CARTER, D.M.D.
Instructor in Prosthetic Dentistry 52 Savin Hill Ave., Dorchester
- FRANK EUGENE HASKINS, M.D. 134 Huntington Ave.
Instructor in Pharmacology and Assistant Demonstrator of Anatomy
- VARNEY ALBERT KELLEY, D.M.D. 21 Maple St., Danvers
Instructor in Clinical Dentistry
- CURTIS WILLIAM FARRINGTON, D.M.D. . 246 Huntington Ave.
Instructor in Clinical Dentistry
- ARTHUR CUSHING PEARCE, M.D. 543 Boylston St.
Assistant in Pathology and Bacteriology
- CAREY ROSCOE CHESTER, D.M.D. Malden
Instructor in Clinical Dentistry
- JOSEPH BERNARD ROCKETT, D.M.D. 370 Bowdoin St., Dorchester
Instructor in Clinical Dentistry
- EUGENE URBANE UFFORD, D.M.D. 23 Tremont St.
Instructor in Prosthetic Dentistry
- ELTON SUMNER JEWETT, D.M.D. 17 Court St., Plymouth
Instructor in Clinical Dentistry
- STANLEY BURTON THORBURN, D.M.D.
Instructor in Prosthetic Dentistry 299 Meridian St., E. Boston
- LEON SAMUEL MEDALIA, M.D. 483 Beacon St.
Instructor in Pathology and Bacteriology
- GRACE ELIZABETH ROCHFORD, M.D. . 68 Paris St., East Boston
Assistant in Bacteriology
- SIDNEY CURTIS HARDWICK, M.D. Quincy
Instructor in Physiology
- JOSEPH MICHAEL BLAGDON, D.M.D. . 112 Main St., Charlestown
Instructor in Prosthetic Dentistry

CHARLES CUMMINGS COLE, D.M.D.	1075	Boylston St.
<i>Instructor in Prosthetic Dentistry</i>		
FREDERIC WILBUR TUTTLE, D.M.D.	695	Parker St., Roxbury
<i>Instructor in Prosthetic Dentistry</i>		
JOSEPH ALOYSIUS MEHAN, M.D.	1022	Central St., Lowell
<i>Assistant in General Chemistry</i>		
EVERETT MITCHELL BROWN, D.M.D.	116	Huntington Ave.
<i>Instructor in Operative Technics</i>		
RAYMOND EUGENE GATES, M.D.	20	Albano St., Roslindale
<i>Assistant in General Chemistry</i>		
ELWIN HARRISON WELLS, M.D.	30	Avon St., Wakefield
<i>Assistant in Physiology</i>		
HARRY HOWARD FLAGG, M.D.	30	Elm St., Charlestown
<i>Assistant in Physiology</i>		
DOMIZIO AUGUSTINE COSTA, M.D.	131	Neptune Rd., E. Boston
<i>Assistant in Pharmacology</i>		

LABORATORY ASSISTANTS

Anatomy

BRAINARD F. CONLEY	Ipswich
FRANKLIN R. IRESON	Marblehead
HOLLIS L. SEAVEY	Cambridge

Physiology

GEORGE E. PARISEAU, Pharm. D.	Worcester
WILFRED G. FUNNELL	Fall River
CLARENCE B. KENNEY	Sharon, Vt.
RALPH W. BICKNELL	Canton, Me.

Histology

SOLOMON H. RUBIN, M.D.	Boston
JAMES F. COUPAL, B.S.	Everett
RUSSELL B. SPRAGUE	Providence, R. I.

General Chemistry

JAMES J. McVEY	Haverhill
LEROY E. BURR	Kingston, N. Y.
EDWARD L. MARR	Malden
HENRY D. EATON	Boston

Medical Chemistry

PHILIP W. PLACE	Francestown, N. H.
CYRIL G. RICHARDS	Boston
BRACE I. LAWLEY	Skowhegan, Me.

Pharmacology

LAMERT OULTON	Port Elgin, N. B.
HJALMAR AHLSTROM	Boston

OTHER OFFICERS

HERBERT T. BROWN	Tufts College
<i>Bursar</i>	
LINA A. MAYO	Tufts Medical School
<i>Stenographer</i>	
MARY WRIGHT RICHARDSON	11 Kenwood Road
<i>Clerk of the Department of Clinical Dentistry</i>	
SARAH ELIZABETH MILLER	7 Haviland St.
<i>Clerk of the Department of Prosthodontia</i>	
FRANCES WILDER	75 Rutland St.
<i>Matron of the Department of Anesthesia and Extraction</i>	
LILLIAN M. TATTAN	Tufts Medical School
<i>Clerk to Secretary</i>	

STANDING COMMITTEES OF THE DENTAL SCHOOL

The Dean and the Secretary are members of all Committees, *ex officio*

ADMINISTRATION.—The President, Drs. Branigan and Bates

ADMISSION.—Drs. Leary, Bates, and Dearborn

NOMINATIONS.—Drs. Hemenway and Barnes

LIBRARY.—Drs. Knight and Bates

INSTRUCTION.—Drs. Knight, Branigan, Hemenway, and Bates

CATALOGUE.—Drs. Bates and Dearborn

WOMEN'S ADVISORY COMMITTEE.—Drs. Elizabeth A. Riley, Olga Cushing-Leary, and Edna Weil-Dreyfus

Student Government Board

The members for the current year of the Student Government Board of the Medical and Dental Schools are as follows :—

CHAIRMAN

Herbert F. Gerald, M '09

SECRETARY

Matthew F. Carney, D '09

MEDICAL SCHOOL:

George P. Towle, '09

James R. Dunn, '10

Paul D. Blanchard, '11

Harry L. F. Locke, '12

DENTAL SCHOOL:

LeRoy E. Burr, '09

Fred R. Cerie, '10

Maurice V. Brown, '11

Tufts College Dental School

416 Huntington Avenue

Boston, Mass.

The Dental School, formerly the Boston Dental College, became an incorporate part of Tufts College in 1899, under a special act of the legislature. It was incorporated under its former name in 1868, and is a firmly-established dental school of thirty years' standing, with a large and distinguished body of alumni. Its transfer to Tufts College was in consequence of the new anatomical laws of the State, and because it was felt by its former board of trustees that the advance in dental education rendered it desirable that the purely scientific part of its curriculum should be pursued in connection with a medical school.

The course of instruction in this institution embraces three academic years of eight months each. The studies of the first year, and a portion of those of the second year, are given in connection with those of the Medical School. Instruction is by means of lectures, demonstrations, laboratory work, and recitations, in anatomy, physiology, histology, chemistry, materia medica, pathology, therapeutics, bacteriology, principles of surgery, hygiene, theory and practice of dentistry, oral surgery, and in operative, clinical, and prosthetic dentistry, orthodontia, and dental technics.

The infirmary, under the personal direction of the Professor of Clinical Dentistry, assisted by a corps of demonstrators, is open daily through the year, except during a part of June, the whole of July and August, and a part of September. In the abundance and variety of its clinical material it furnishes an unsurpassed opportunity for the study of oral surgery and of dentistry in all its branches.

The laboratory of the prosthetic department is provided with perfect facilities for every variety of dental work. Every student is required before graduation to present satisfactory specimens of the different forms of mechanical work made by himself in the laboratory of the School, and under the supervision of the Professor of Prosthetic Dentistry.

The library of the School contains many medical and dental books and periodicals, and is being constantly increased, the aim being to add the new and important books in the various departments, as they are issued. The library is open for reference, and books are loaned to students. All the students are earnestly requested to make use of this privilege. Students also have access to the Boston Public Library, which contains one of the largest collections of scientific works in the United States.

Further opportunities for instruction are furnished by the valuable clinics and operations at the large hospitals of the city, which can be visited by the matriculates of this institution. Numerous operations upon the face and oral cavity are performed before students on public operating-days, and all connected with the School are urged to avail themselves of the facilities thus offered.

THE NEW BUILDING

The building is occupied by the combined Medical and Dental Schools of Tufts College, and was built in 1900, as it was found necessary to provide increased laboratory facilities, owing to the rapid growth of the Schools. Special attention is called to the new dental infirmary, which occupies the first floor of the dental wing. This room, 125x29 feet, is equipped and arranged in a manner similar to the operating room of a hospital; aseptic chairs, cuspidors, and brackets have been especially constructed for this School; steam sterilizers are provided for the disinfection of instruments; and it is believed that by these modern applications of asepsis to dentistry the new infirmary is among the most complete dental infirmaries in this country. The prosthetic department, which corresponds in

size to the infirmary, is equipped in the most approved modern fashion. For this department, electric power is supplied. The lower floor of the dental wing is devoted to operative technics (see page 273), and to the department of anesthesia and extraction. In the latter department, the most improved apparatus for the administration of nitrous-oxide is provided, and there is a recovery room under the charge of a professional nurse, who is in daily attendance. A surgeon connected with the Medical School is present on occasions when ether is administered.

Subjects of Instruction

ANATOMY

The course in anatomy is given throughout the first half of the first year. It consists of five lectures and three recitations weekly with the class, and of special demonstrations by the instructor on the difficult part of the work. In the dissecting room each student is required to dissect two parts, to the satisfaction of the Demonstrator of Anatomy, before taking the final examination. Record of attendance and of the quality of the work done in the dissecting room will be kept, and will largely determine the standing of the student in the class.

CHEMISTRY

The course in general chemistry consists of descriptive chemistry and qualitative analysis, with so much of theoretical chemistry as is necessary for a proper understanding of the subject.

The classification of the carbon compounds is also taken up at considerable length, and special reference is made to those which are of interest in the study of medicine. The instruction is by lectures, recitations, and practical work by the students in the laboratory. There are five lectures, two recitations, and six or more hours of laboratory work for each student, every week during the second semester. Much attention is given to qualitative analysis for the sake of the valuable training which it

imparts, and the knowledge of chemistry which is incidentally gained. The importance of this knowledge is evinced by the fact that it is the only non-professional subject that is required in most dental schools. The aim is to impart such information in chemistry as is necessary to the intelligent dentist. At the same time any who wish to pursue the study further than is required of every graduate may do so by special arrangement.

During the second year this preliminary training in chemistry is followed by lectures, recitations, and laboratory work in dental chemistry. The metals, with their alloys and salts as used in dentistry, the bones and the teeth, the saliva, and the chemistry of the mouth are carefully studied. The high importance of the many applications of chemistry to the dental profession is fully recognized.

PHYSIOLOGY

The course in physiology is given throughout the latter half of the first year. It consists of five recitations, two lectures, and three conferences for every student each week, the preparation of a technical written paper, and extra demonstrations.

In the recitations, familiarity with the substance of an assigned text-book and with the Syllabus is required. The lectures set forth the principles of general physiology, and suggest some of its relations to the allied sciences, especially anatomy. The conferences give volunteers opportunity to become familiar with the literature on interesting physiological topics, which are then presented briefly in written reports and freely discussed by the class. Record both of the attendance and of the quality of the work done in the recitation-room will be kept, and, with the conference, will help to determine the standing of the student in the department. In addition, a three-hour written examination covering the entire scope of the year is held at the completion of the work, besides important subsidiary written examinations monthly.

By thus concentrating attention upon physiology during an adequate period, it is hoped that a thorough and indispensable grounding in the functions of the normal human organism will

be acquired. Advanced work in physiology will be provided for competent students, by special arrangement with the head of the department, the constant aim being to adapt the labors of each student both to his needs and to his capabilities.

HISTOLOGY

The subject of histology covers the first half of the first year. The work during the first half of the allotted time will be identical with that of the students in the Medical School. This part of the subject covers the study of the elementary tissues, treated comprehensively, beginning with their origin in the embryo. Dental histology will be taught during the second year. In this connection particular attention will be given to the study of the minute anatomy of the tooth. The development of the teeth will also receive careful treatment. A training which gives the student a knowledge of the origin and history of the dental germ lays a suitable foundation for the dentist.

The department is equipped with microscopes which, on the payment of a small fee, will be at the service of such as cannot furnish instruments of their own.

ELEMENTARY HYGIENE

During the first half of the Freshman year, elementary hygiene is taught, together with the benefits to be derived from pure and wholesome associations, with the object of developing high moral, mental, and physical qualities.

OPERATIVE DENTISTRY

In operative dentistry the instruction is both didactic and clinical. Lectures are given covering the whole field, familiarizing the student with all known methods, the conditions under which different filling materials are used, and the most approved manipulation of the same. Many lectures are followed by clinics before divisions of the classes, where attendance is obligatory. By this means every detail of the operation is impressed upon the mind of the student. Great emphasis is placed upon the preparation of cavities for filling. Instruction is

further given concerning the pathological conditions of the mouth and the treatment of the same, exposed pulps, inflamed pulps, dead pulps, abscesses, inflammation of the peridental membrane, and allied subjects. Special attention is given to the preparation of cavities for porcelain filling, and the manipulation of the same. Prophylaxis also is taught, under improved systematized methods.

OPERATIVE TECHNICS*

The technical laboratory is situated on the lower floor, and is exceptionally well lighted from three sides. It is equipped with benches having lock drawers for each student, and has power lathe and other implements for convenient use.

Instruction in this course will be by lectures, illustrated by models and drawings, and by practical work on the part of the student. The student's work will include the study of the forms of teeth, with carving in ivory; study of the position and form of pulp chambers and canals, with dissection of teeth; proper methods of treating and filling pulp canals, with operations on extracted teeth. Porcelain inlay work, with practical examples, also proper methods of forming cavities for filling, and the manipulation of all filling materials, will be included.

CLINICAL DENTISTRY

The method of instruction in clinical dentistry is by clinical lectures to the students of each class, accompanied by practical demonstration of various operations on the teeth and neighboring tissues.

Ample opportunity for work in practical operative dentistry is furnished in this department, and the student, by actual practice, receives training in the various dental operations, and in the diagnosis and treatment of diseased conditions of the mouth and teeth.

* NOTE.—The operations in the technical departments require a very large number of natural teeth, and a sufficient supply is sometimes difficult to get. It will therefore be to the interest of students if they will bring with them all the extracted teeth they can obtain.

PROSTHODONTIA

The instruction in prosthodontia consists of a graded course of didactic lectures to the entire class, illustrated by models and diagrams, on the nature, properties, and manipulation of the various materials used in making artificial dentures, crowns, and bridge-work, preparatory to, and in harmony with, the laboratory work in prosthetic dentistry. These lectures extend through the three years of the course.

PROSTHETIC DENTISTRY

Particular attention is given to practical manipulation of vulcanite, celluloid, aluminum, and cast metal, for dentures; to gold-plate work, to preparation of plate for continuous gum and the application of continuous gum to crown and bridge work, as well as the construction of gold crowns and bridges. The natural form, color, and arrangement of the teeth, together with the entire range of procedure, from taking the impression to the completion of the case and its proper adjustment in the mouth, are thoroughly demonstrated.

ORTHODONTIA

The instruction in the department of orthodontia consists of illustrated lectures dealing with normal development of both temporary and permanent teeth and adjacent tissues, compared with mal-development; also the etiology and treatment of the various deformities of the mouth and teeth.

In addition, the student will be taught the technique and management of practical cases, under the direction of the instructors.

PHARMACOLOGY

Instruction in pharmacology consists of lectures, recitations, and laboratory exercises, twelve hours a week throughout the first half-year. Especial attention is given to the physiological action of drugs in its relation to their therapeutical application, and to the relation always existing between therapeutics and physiological and pathological laboratory work. The laboratory course is designed to familiarize the student with all medic-

inal preparations and processes, and consists of exercises in which the class in sections is led to this result practically.

Prescription writing and the metric system will receive careful attention. Such of the recent additions to *materia medica* as are deemed worthy will be properly considered.

PATHOLOGY AND BACTERIOLOGY

The subjects of pathology and bacteriology will be considered together. This method permits showing the relation of bacteria to the disease processes which they produce. The work will consist of lectures, required laboratory work, and demonstrations. The student is made acquainted with the bacteria of the mouth, and is required to cultivate and study the important organisms. He is expected to carry out experiments to demonstrate the production of artificial caries. The subject of general pathology will be thoroughly covered. The special pathology of the mouth, and of the respiratory and intestinal tracts, will be given particular attention. Inflammation, especially the infectious types, among which are the lesions produced by the pyogenic bacteria, will be carefully considered. The process of repair in soft tissues and bone, and tumors of the mouth and face, are studied from sections of human and experimental lesions, and illustrated by demonstrations of gross specimens. In connection with the study of infectious processes, the specific bacteria will be cultivated and studied. Diseases of the circulatory system are illustrated by lectures and gross demonstrations. The methods of sterilization and their relative efficacy are practically studied, and tests are made of a large series of antiseptic and disinfectant substances.

The pathological and bacteriological department of the School occupies over four thousand square feet of floor space, with a frontage of one hundred and sixty feet. It is excellently lighted. The laboratory furnishes accommodation for one hundred students, and is supplied with all the materials necessary for thorough work.

THEORY AND PRACTICE OF DENTISTRY

The instruction in the theory and practice of dentistry is designed to teach the most advanced scientific discoveries in relation to this art.

It will include such subjects as the action of mouth bacteria, diseases dependent upon dental lesions, dental prophylaxis, oral hygiene, and the ethics of dental practice. The course will be arranged to harmonize with and to supplement the work of the clinical department.

THEORY AND PRACTICE OF MEDICINE

The work in the theory and practice of medicine consists of a series of lectures given to the dental students by members of the Faculty and Board of Instruction of the Medical School. It is intended to include such subjects as general infectious and contagious diseases; syphilis; stomatitis and tonsillitis; diseases of the heart, kidneys, and skin; neuralgia and neurasthenia; disorders of the alimentary tract; pregnancy; tuberculosis. Lectures upon legal medicine and other subjects will be given. It is believed that a course of this description will be of the utmost practical value to dental students, as it will make them acquainted with the nature of a large class of diseases and conditions which they are liable to meet in the practice of dentistry. It is expected that Drs. Williams, Otis, Prince, Austin, Arnold, White, Stowell, and Howe, of the Medical School, will contribute to this series of lectures.

HYGIENE AND SANITATION

The Faculty, realizing that the conditions under which the dentist lives and works may be conducive or detrimental to his well-being, has established a course in hygiene and sanitation for students of the third-year class.

The conservation of vital forces that protect from disease; the knowledge of what constitutes pure air, good water, wholesome food, abundant exercise, ample recreation, and how they may be obtained; the vital cause of transmissible diseases, how transmitted and through what portals entrance to the human

body is gained, are subjects with which the dentist should be familiar, for his occupation often necessitates close relations with patients suffering from diseases acquired only through transmission from one person to another. If he is possessed of this knowledge, together with the ability to make a probable diagnosis from plainly manifested symptoms, he may preserve his health, and by simple precautions escape the preventable diseases, especially of the respiratory and alimentary tracts.

SURGERY

The course in surgery consists of a systematic series of lectures covering its principles. These lectures explain the fundamental facts which should be thoroughly understood by all students who propose to treat any portion of the human body. The lectures are not limited to surgery of the mouth, although especial attention is given to this part of the subject, but are intended to give the dental student a sound knowledge of surgery in general.

Asepsis and anesthesia are minutely discussed, and practically demonstrated in the infirmary, in conjunction with the Professor in Operative Technics and Anesthesia. The student is carefully instructed in the administration of ether and of nitrous-oxide gas. In addition to the daily instruction, one morning in each week is devoted wholly to this work, the class being divided into sections. At this weekly demonstration, cases are presented exemplifying the choice of an anesthetic in the particular case. The danger signals of anesthesia are considered, and the proper treatment explained. Local anesthesia receives careful attention, and its limitations are pointed out.

The technic of aseptic and antiseptic methods in dental work is thoroughly explained, and shown in connection with the demonstrations of anesthetics.

ANESTHESIA AND EXTRACTION

The extracting room, a well-lighted apartment, is supplied with all needful instruments and appliances for extracting teeth

and for the performance of the simpler operations in surgery. Ample waiting rooms are adjacent, and also rooms for the care of patients after anesthesia. Administrations of nitrous-oxide gas and ether are made daily. The room is at all times under the personal supervision of the Instructor in Anesthesia.

CLINICAL CONFERENCE

Each clinical conference consists in the reading of an essay upon some practical subject,—the written report of an actual case by a student of the Senior class,—at a meeting of the class presided over by a member of the Faculty. The report is intended to bring out all the features of the case with regard to such topics as its etiology, pathology, and treatment. When possible, the patient will be presented to the class for examination. The case is fully discussed by the members of the class and by the professor in charge.

Requirements

FOR ADMISSION

Candidates for admission to this School, except as hereafter stated, must pass a written entrance examination in the following studies: English, Algebra, Plane Geometry, Physics, and Latin, and one subject to be chosen from the following: American History, Biology, Chemistry, French, or German.

(a) English: a composition of two hundred words upon some subject of general interest; the same to be criticised in relation to thought, construction, punctuation, spelling, and handwriting. The subject for this examination in 1909 will be chosen from the following:—(1) Shakespeare's Merchant of Venice; (2) Thackeray's Henry Esmond; (3) Burke's Speech on Conciliation with America; (4) Scott's Ivanhoe. Every candidate is expected to have read intelligently all the books prescribed.

(b) Algebra: the fundamental operations, factors, fractions,

simple equations, simultaneous equations of the first degree, involution and evolution, exponents and quadratic equations. Texts similar to those of Wells or Wentworth are suggested for study.

(c) Plane Geometry.

(d) Physics: an examination suited to those who have studied such text-books as Gage's Elements of Physics, or Carhart's and Chester's Elements of Physics.

(e) Latin: a sight translation of elementary Latin; as, for example, the first fifteen chapters of Caesar's Commentaries; also the translation into Latin of easy English sentences involving the same vocabulary.

(f) In addition to the above, the candidate must present himself for examination in *one* of the following subjects:—

1. American History: The text-book suggested is McLaughlin's History of the American Nation.

2. Biology: The text-books suggested are Colton, Zoology, Descriptive and Practical; Jordan, Kellogg and Heath, Animals; Kingsley, Elements of Comparative Zoology; Needham, Lessons in Zoology.

3. Chemistry: The text-book suggested is Newell's.

4. German: Kayser and Montesu's Brief German Course, or Edgren and Fossler, or the "first part" of the Joynes-Meissner Grammar, together with some seventy-five pages of easy German from such texts as are commonly read in the first year of the preparatory school, will represent the amount of preparation expected.

5. French: Grandgent's Short French Grammar, or the "first part" of any one of the commonly used grammars, together with about one hundred pages of easy French (as above).

In modern languages the equivalent of one year's study, with four periods a week, is required.

Students who have failed in not more than three of these subjects may be admitted, subject to condition.

Students who have failed to remove their entrance conditions

before the beginning of the second year will be catalogued with the first-year class.

The entrance examinations will be held on Monday, June 7, and on Monday, Sept. 20, 1909, at 10 A.M. They are conducted at the Dental School building, under the supervision of an officer of the College of Letters.

EXCEPTIONS.—Graduates of approved colleges or universities, graduates of approved high and preparatory schools, and students holding Regents' certificates of the State of New York are admitted without examination.

ADVANCED STANDING

Students who have taken courses in other accredited dental schools are admitted to advanced classes upon presenting satisfactory evidence that they have passed the examinations required for the class they desire to enter.

Students presenting evidence of a course equivalent to the course in general chemistry given in the first year are allowed to anticipate the subject upon passing the fall examinations.

PROMOTION

Students who have passed a majority of the examinations of the first-year class, and all entrance conditions, may be promoted to the second-year class. Students who have passed all first-year and a majority of the second-year examinations may be admitted to the third-year class.

GRADUATION

Candidates for the degree of Doctor of Dental Medicine must have fulfilled the following minimum requirements:—

1. They must present a certificate that they are twenty-one years of age and of good moral character.
2. They must have attended at least three full courses of lectures in some accredited dental school, the last of which shall have been at this School, and no two courses in the same twelve months.
3. They must have passed all the examinations required, and have satisfied the professors of clinical and prosthetic den-

tistry of their ability to meet satisfactorily the requirements of the profession.

4. They must have satisfactorily dissected under the direction of a demonstrator of anatomy.

5. They must have paid all fees.

CHANGE OF REQUIREMENTS

The Faculty reserve the right to change all requirements without further notice.

STANDING AND CERTIFICATES

At the end of the session a statement of his standing for the year is sent by mail to each student. These certificates must be preserved for future reference. No marks will be sent or credit given to any student who is in arrears with the Bursar.

EXAMINATIONS

There are two periods of examination held each year in the school building. Examinations are in writing, and are held at the close of the course in the spring, and previous to the opening of the regular course of lectures in the fall.

The spring examinations are for :—

- (a) Students commencing the study of dentistry. (See page 278.)
- (b) Promotion.
- (c) Graduation.

The fall examinations are for :—

- (a) Students commencing the study of dentistry. (See page 278.)
- (b) Removal of conditions in :
 - 1. Previous entrance examinations. (See page 278.)
 - 2. The first-year course.
 - 3. The second-year course.

Students intending to take the fall examinations (other than entrance) *are required* to notify the Secretary on or before September 4, 1909.

The fall examinations for the removal of conditions will commence Monday, September 13, 1909, at 10 A.M. A detailed list of the subjects in which examinations are given, with the day and hour of each, will be mailed after September 1, 1909, on application.

REGISTRATION AT EXAMINATIONS

In each examination (except those for entrance) students who fail to sign the registration blank provided for the purpose shall receive no credit for that examination.

The examinations in course are as follows :

First Year. *Finals* in Anatomy, Physiology, General Chemistry, Histology, Operative Technics, and Elementary Hygiene.

Progress in Prosthetic Dentistry and in Prosthodontia.

Second Year. *Finals* in Materia Medica, Pharmacology, Dental Chemistry, Pathology, Bacteriology, and Dental Histology.

Progress in Operative Dentistry, Clinical Dentistry, Prosthetic Dentistry, and Prosthodontia.

Third Year. *Finals* in Oral Surgery, Orthodontia, Theory and Practice, Hygiene, Operative Dentistry, Clinical Dentistry, Prosthetic Dentistry, and Prosthodontia.

TEXT BOOKS

The first book mentioned is preferred as a text-book, the others being recommended as collateral reading.

Anatomy.—Gray, Weisse, Quain, Morris, Cunningham, Solatta, McMurrich.

Physiology.—Syllabus, Dearborn's Text-Book of Physiology, Howell, Landois, Verworn, Schäfer, Morat, Hutchinson.

Chemistry.—Simons's Manual, Witthaus, Storer and Lindsay, A. H. Elliott's Qualitative Analysis, Mitchell's Dental Chemistry.

Dental Histology and Microscopy.—Syllabus, Stohr's Histology, Tome's Dental Anatomy (latest edition).

Pathology.—Syllabus, Miller's Micro-Organisms of the Human Mouth, Burchard's Dental Pathology.

Hygiene.—Egbert's Hygiene and Sanitation.

Materia Medica and Therapeutics.—Hare, U. S. Dispensatory, Gerrish's Prescription Writing.

Orthodontia.—Malocclusion of the Teeth, Angle (7th edition); Orthodontia, Guildford (4th edition); Internal Anatomy of the Face, Cryer.

Practice of Surgery.—American Text Book, Marshall's Injuries and Surgical Diseases of the Jaws, International Text-book of Surgery.

Dental Science and Operative Dentistry.—Kirk's Operative Dentistry, Garretson's Oral Surgery, Black's Dental Anatomy, Weeks's Operative Technics, American System of Dentistry, Harris's Practice of Dental Surgery, Taft's Operative Dentistry.

Prosthetic Dentistry.—Essig's American Text-book of Prosthetic Dentistry, Richardson's Mechanical Dentistry, Evans's Crown and Bridge Work, Gilbert's Vulcanite and Celluloid.

Bacteriology.—Abbott, Woodhead, Sternberg.

Medical Dictionary.—Dunglison.

FEES AND EXPENSES

A matriculation fee of *five dollars* is payable each year.

A charge of *one hundred and fifty dollars* for tuition is payable in advance.

If desired, the tuition may be paid in instalments, in which case an additional charge of five dollars is made, and the fees are then paid as follows:—

First payment:—Five dollars for matriculation fee and seventy-five dollars on account of the tuition, a total of *eighty dollars*, payable at the beginning of the first semester.

Second payment:—Seventy-five dollars, the balance of the tuition, and five dollars, the additional charge, a total of *eighty dollars*, payable at the beginning of the second semester, or before February 1.

There is no charge for anatomical material or for laboratory supplies.

No student will be admitted to the exercises of the first half-year who has not paid his matriculation fee and at least one-half the tuition, and no student will be admitted to the exercises of the second half-year who has not paid his fees in full.

Students leaving the school have no claim for tuition paid.

Students who have failed twice in a subject are required to pay a fee of five dollars for each subsequent examination in that subject.

POST-GRADUATE FEES

Post-graduate fee for graduates of other schools	\$150.00
Single course	50.00

Post-graduate fee for graduates of this School . . .	60.00
Single course	30.00
Anatomical material	at cost

The Bursar of the College will be at the School Monday, Wednesday, and Friday, 2.30 to 5.00 P.M., from October 1 to June 1.

There are no scholarships connected with the School.

The expenses of living in Boston need not exceed those in small cities and villages. Good board, including room, fire, and light, can be obtained in the vicinity of the school at from \$5.50 to \$7 a week. Students will not be allowed to occupy rooms disapproved by the Faculty.

OUTDOOR DEPARTMENT

Clinical Dentistry

For many years it has been the custom of the authorities of this School to furnish to certain charitable and penal institutions qualified dentists for the purpose of alleviating cases of actual suffering. Applications for an extension of this service should be made to E. W. Branigan, A.M., D.D.S., Department of Clinical Dentistry, Tufts College Dental School, Boston, Mass.

Prosthetic Dentistry

In a manner similar to the above it has been the custom of the authorities of this School to furnish to the inmates of certain institutions for the aged, at the nominal charge of the cost of materials, artificial teeth and appliances. Institutions desiring to avail themselves of the privilege should apply to F. M. Hemenway, D.M.D., Department of Prosthetic Dentistry, Tufts College Dental School, Boston, Mass.

STATE BOARD EXAMINATION

Students shall not take a State Board Examination in Dentistry previous to the time of final examinations of the third year, without a written permission from the Secretary of the Dental School.

General Information

The Tufts College Dental School is a member of the National Association of Dental Faculties, and conforms to its rules, as well as to those of the National Association of Dental Examiners.

All students must be registered and in attendance within ten days after the commencement of lectures.

LIBRARIES

The students of this School have free access to the Dental School Library, to the Library of Tufts College, to the Boston Public Library and to the Boston Medical Library.

The library at the Dental School is open daily from 9.00 a. m. to 5.00 p. m., except Sundays and holidays. This library is intended to provide *text books for reference*, and the latest editions of all text books used in the school are furnished. These cannot be taken from the Reading Room. In addition, the library contains a large number of reference books in general medicine and general surgery, and in all special branches of each. These works are loaned to the student free of charge, and can be taken out. Complete files of various medical journals provide a valuable addition to the school library.

The Boston Medical Library, which is situated near the School, has one of the largest and most complete collections of dental works in existence. It contains not only bound volumes of every important book in dental literature, but also a very extensive collection of monographs and pamphlets on special subjects. All the leading dental journals are on file for inspection. The Boston Medical Library extends its privileges, under certain conditions, free of charge to students of this School. Its rooms are open daily from Oct. 1 to May 31 from 9.30 a. m. to 10.00 p. m., except Sundays and holidays. The hours on Saturday are from 9.30 a. m. to 6 p. m.

SESSIONS OF THE SCHOOL

The annual course of lectures begins on the last Wednesday

in September of each year, and continues until the last Wednesday in May. The annual course of lectures for 1909-10 will commence Wednesday, September 29, 1909, at 3 p. m.

VACATIONS

There are no exercises at the School during three days at Thanksgiving, Christmas week, and the week beginning April 4, nor upon Washington's Birthday, Patriots' Day, and Memorial Day.

APPLICATIONS

Students who intend to enter the School for the first time must obtain from the Secretary an application blank, which they are required to fill out and return to him. Application blanks will be mailed upon request.

REGISTRATION

Registration is required of all students, each year. *Registration blanks for the session 1909-10 must be filled out and deposited with the Secretary on or before October 9, 1909.* Registration is conducted at the school building only.

ANNOUNCEMENT

Requests for the annual catalogue, and all other communications relating to the business of the School, should be addressed to the Secretary, FREDERIC M. BRIGGS, M.D., Tufts College Dental School, Boston, Mass.

Summer Courses

The following subjects are offered during the summer months:—

PHYSIOLOGY

A course in physiology will be given during the months of June and July by, or under the direction of, the Professor of Physiology. For particulars of the course application should be made to Dr. Dearborn.

HISTOLOGY

A summer course will be given under the direction of the Professor of Histology. Particulars as to the scope of this work, and the fee, may be learned upon application to Dr. Bates.

THE
BROMFIELD-PEARSON
SCHOOL

The Bromfield-Pearson School

BOARD OF INSTRUCTION

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT

GARDNER C. ANTHONY, A.M., Sc.D., DEAN
Professor of Technical Drawing

SAMUEL C. EARLE, A.M.
Professor of English

CHARLES E. STEWART, S.B.
Assistant Professor of Mechanic Arts

GEORGE F. ASHLEY
Instructor in Drawing and Mathematics

PHILIP M. HAYDEN, A.B.
Instructor in French

The Bromfield-Pearson School

The Bromfield-Pearson School is intended to meet the wants of young men whose preparation for an Engineering course may be partially deficient in one or more of the required branches, but whose practice and experience in the applied part of Engineering may qualify them to pursue college work while making up these deficiencies. By this means an engineering education is made possible to those who may have been deprived of the opportunities for obtaining the necessary preparation, or who may have allowed considerable time to elapse between the high school and the college course. A mature mind, industrious habits, and a keen appreciation of the value of the higher education in Engineering are essential qualifications for engaging in this work.

As it is the intention of the Trustees to limit the membership to those earnest and somewhat mature students who cannot afford the time ordinarily required in the fitting school, candidates will not be received from manual training and high schools.

ADMISSION

Students intending to join the School must obtain from the Dean an application blank, which they are required to fill out and return. On receipt of this statement they will be informed as to the conditions of entrance and the program of studies which it will be possible to pursue.

REGULATIONS

Students are subject to all the rules governing members of the College.

All preparatory work must be completed during the year, as no student will be admitted to the School for more than one year.

Students admitted to college classes will be required to obtain a somewhat higher per cent. than the minimum requirement for engineering students.

On the satisfactory completion of the preparatory work students will be given a certificate of admission to the College. They will also receive full credit for all college work done toward a degree.

The President and the Dean have final authority concerning admission, promotion, and discipline.

EXPENSES

The tuition fee is one hundred and fifty dollars a year, payable as follows: seventy-five dollars on or before October 15, and the remainder on or before March 15.

A registration fee of five dollars is charged each entering student, and is payable at the time of registration.

No part of the tuition fee will be refunded to pupils who for any reason withdraw from the school before the close of the term for which the fee is paid.

Students board in commons or in private families at \$4.00 to \$5.00. Furnished rooms may be had at \$1.50 or \$2.00 a week. Other expenses vary with the economy of each student. Students living in the College dormitories furnish their own rooms.

The following estimates represent the fixed annual expenses:—

Tuition	\$150.00	\$150.00
Half-room rent	20.00	91.00
Board, \$4.00 to \$5.00 a week (36 weeks) . .	144.00	180.00
Physical training		10.00
Books, instruments, and supplies	15.00	25.00
Total	\$329.00	\$456.00
Registration-fee, for entering students		\$5.00

For other information address GARDNER C. ANTHONY, Dean of the Bromfield-Pearson School, Tufts College, Mass.

The Harpswell Laboratory

INSTRUCTORS

J. STERLING KINGSLEY, Sc.D.

Director, and Professor of Biology

HERBERT V. NEAL

Professor of Biology, Knox College, Galesburg, Ill.

FRED D. LAMBERT, Ph.D.

Assistant, and Instructor in Natural History

In 1898 summer instruction in biology was given at South Harpswell, Maine, and in 1901 the college erected a small laboratory at that point, enlarging it in 1902. The location is admirably adapted for biological research, since the fauna of Casco Bay is extremely rich. The laboratory is equipped with boats, dredges, glassware, apparatus, and reagents, for study on the lines of anatomy and embryology. There is also a small library of the most important works.

South Harpswell is two hours by steamer from Portland. It is at the extremity of a narrow peninsula ten miles in length, and has a cool climate. There are several hotels and boarding houses, where board and rooms may be had at five dollars a week and upward.

The Harpswell Laboratory will be open during the summer of 1909, for research work only, under the direction of PROFESSOR KINGSLEY.

For circulars and other information concerning the Harpswell Laboratory, inquiries should be directed to PROFESSOR J. S. KINGSLEY, Tufts College, Mass.

DEGREES AND HONORS

1907-1908

Fifty-Second Annual Commencement

HONORARY DEGREES CONFERRED

June 19, 1907*

Masters of Arts

William Waldemar Spaulding Timothy Leary

June 18, 1908

Masters of Arts

Joseph Devine Flynn Rosewell Biglow Lawrence
Frank Everett Peabody Arthur Elmer Denison
William Davis Thayer Trefry

Doctors of Divinity

Arthur Wilder Grose Frederic Williams Perkins

DEGREES CONFERRED IN COURSE

Bachelors of Arts

Harvey Eastman Averill	Bion Bradbury Libby
Harold Leslie Bailey	Howard Crandall Mason
Beth Boswell	Clinton Joseph Masseck
James Aaron Burnham, Jr.	Beatrice Mary McFarland
Miriam Stanley Carleton	Frederick Allen Mooney
Emily Morgan Cate	Francis Joseph Murray
Ray William Clough	Raymond Hale Odell
Dexter Elton Coggeshall	Mabel Elizabeth Page
Aimée Edna Currier	Edith Blanche Perkins
Marion Eleanor Dailey	Isabel Clara Perkins
Charles Haskell Danforth	Ethel Mason Remele
Earl Henry Danforth	William James Renison
Eva Alberta Drummond	Amy Viola Richards
Carolyn Genesta Fraser	Wilfred Harvey Ringer
Ethel Luella Fuller	Henry Joseph Roper
Walter John Goggin	Philip Edward Anthony Sheridan
Frederick Simonds Hammett	Margaret Christy Tupper
John Perkins Jackson, Jr.	Dayton George Vogt
Blanche Isabelle Jouett	Geneva West
Esther Evelyn Ladd	Everett Sargent White

Amy Josephine Winn

* Omitted by mistake from the catalogue of 1907-08.

Bachelor of Philosophy

Ernest Cobb (extra ordinem as of the class of 1907)

Bachelor of Science in General Science

Walter George Alpaugh

Bachelors of Science in Biology

Mary Elizabeth Dolbear

Alveda Frances Greenwood

Bachelor of Science in Chemistry

Wilwyn Herbert

Bachelors of Science in Civil Engineering

Charles Brooks Clark (extra ordinem as of the class of 1897)

Stanley Wallace Moore

Mason Albright Rogers

Octavus Phillips Cohen

Ralph Cushman Shattuck

Carlton Nudd Conner

Francis Warton Kaan Smith

Guillermo Esteves Volckers

Allan Thorndyke Sylvester

Herbert Ellsworth Howes

William Randall Tompson

Robert Smith Johnston

Charles Melville Upham

Rodney Melledge Wilson

Bachelors of Science in Electrical Engineering

Leroy Rollins Brooks

Carlton Leroy Kennedy

George Augustus Burnham

Fred Farwell Piper

Alfred Sherman Davis

Charles Edward Seede

James Thomas Doherty

Gordon Grant Shearer (extra ordinem as of the class of 1907)

Walter Robbins Green

Frank Waldo Hewitt

Joseph Harris Studley

Klate M Holt

Arthur Oswald Todd

Bachelors of Science in Mechanical Engineering

Cedric Powers

Hubert Gordon Weeks

Earl Stafford

Ralph Sydney Wilbur

Damon Bryant Stevens

Joseph William Zeller

Bachelors of Science in Chemical Engineering

Elmer Edward Fickett

Clifford Warren Lane

Ernest Howard Merchant

Bachelor of Divinity

Rubens Rea Hadley

Doctors of Medicine

Nathan Addelson

Alfred Ernest Baxter

Seth Fenelon Arnold

Merlin Freelan Blodgett (extra ordinem as of the class of 1907)

Charles Moran Atchison

George Willard Blood	George Andrew Miller
Edward Francis Brennan	Samuel Charles Mintz (extra ordinem as of the class of 1907)
Walter Burrier	Sadie Angela Mulvanity
George Russell Callender (<i>cum laude</i>)	Abraham Myerson
Harry Ray Coburn	Hymen Abraham Mysel
John Gilbert Corcoran (<i>cum laude</i>)	Roy Bartlett Nutter
Percy Loraine Dodge	Lucy Jane O'Connell (extra ordinem as of the class of 1907)
Herbert Anthony Donnell	Harlan Lloyd Paine
Edward Scott Elliott	Franklin Haskins Perkins
Daniel James Ellison	Joseph Napoleon Perrault (extra ordinem as of the class of 1907)
Harry Howard Flagg	John Anderson Pettey
Joseph Edward Hallisey	Laurence Earl Poole (extra ordinem as of the class of 1907)
Leslie Hamm	Gaetano Praino (extra ordinem as of the class of 1907)
George Richard Hopkins (<i>cum laude</i>)	Joseph Prenn
William Elliot Hunt	Walter Hall Pulsifer
Benjamin Franklin Janes, Jr.	Harriet Noyes Randall (<i>cum laude</i>)
John Burger Albert Johnson	John Arnold Reese
Joseph Patrick Kearney	George Reinherz
Charles Joseph Kickham	Thomas Neil Roche
Forrest Le Roy Leland (<i>cum laude</i>)	Ellen Mae Rowe
Henry John Lupien	Solomon Hyman Rubin (<i>cum laude</i>)
Lauchlin MacPherson (extra ordinem as of the class of 1907)	Samuel Sandler
Harold Robert Collins Mahar	Maurice Thomas Scanlan
James Wescott Manary	Katharine Cecelia Sheehan
Louis Edward Mannix	Louis Simonson
Carlos Manuel Manotas	Earle Edward Tilton
Patrick Joseph Maroney	Albert Brookings Toppan
James Michael McTiernan	Paul David Torosian
Adelbert Samuel Merrill (<i>cum laude</i>)	
Julia Tracy Metcalf	

Doctors of Dental Medicine

Amenag Garo Atamian	William Henry Canavan
Raymond Carpenter Bangs	Roger Irving Clapp
Alfred Charles Bertrand (extra ordinem as of the class of 1907)	Frederick Fletcher Coates
Walter Joseph Billings	Frank Leslie Comstock
Oscar Harvey Brann	Thomas Patrick Joseph Conway (extra ordinem as of the class of 1907)
Edward Bailey Branigan	Lee Felch Coy
Charles Raymond Brown	Willard Sawtelle Davis
James Francis Burns	

Joseph Benjamin Ellis	Daniel Francis McCarthy
George Frederick Evans	Gregory Sarkis Meeryeck
Walter Vickery Ewing	John Lummus Merrill
Albert George Fitzpatrick	Arthur Linwood Morse
Albert Wilber Foss	Edward Joseph Noonan
Ernest Hanson Fountaine	Percy Nils Nordgren
Dexter Carleton Freeman	Warren Henry Packard (extra ordinem as of the class of 1907)
Maria Frances Gavin	Leon Earl Parcher
Napoleon Joseph Goulet	Harry Simmons Paxton
Arthur Dudley Hall	Herbert Raymond Pickering
Lawrence Whidden Hall	Napoleon Octave Provencher
Frederick Hancock Harrington	Arthur Bradford Reid
Lucien Hiram Harris	Carl Edgar Reynolds (extra ordinem as of the class of 1907)
Thomas Hayden	Walter Bartlett Robbins (extra ordinem as of the class of 1907)
Daniel Francis Hickey (extra ordinem as of the class of 1907)	Myron Stockbridge Rochefort (extra ordinem as of the class of 1907)
Burton Alonzo Holmes	Robert Joseph Saunders
Julius Isenberg (extra ordinem as of the class of 1907)	Vincent Charles Simon
Earl Latimer Johnson	Isador Siskind
James Henry Kelley (extra ordinem as of the class of 1907)	Donald Meeds Small
Mataich Kihita	Raymond Miner Smith
Walter Addison Lawrence	Frank John Stalker
Ralph Leach	Benjamin Lawson Toombs
Bernard Libby	Herbert Stradivarius Tubbs (extra ordinem as of the class of 1907)
Lewis Lombard	Eugene Todhunter Vincent
Domingos Moniz Machado	Harry Lyman Watson
Ouida Fairchild Mackay (extra ordinem as of the class of 1907)	Walter Westwood
Hugh Cameron MacKintosh	Charles Edward Whitney, Jr.
Hugh Charles Maguire	
Richard Thomas Mahoney	
Frederick Henry Winship, Jr.	

Doctors of Dental Medicine in Post-Graduate Course

Frederick Samuel Belyea	John Charles Manning
Patrick Henry Devine	Joseph Massell
William Franklin Gilman	Enos Witter Moore
Sara P Hooker	William Bakeman Osgood
Philip Patrick Kelley	Horace Mason Perkins
Charles Frederic Kreppel	John Francis Pierce
Joseph Albert Labonté	Almond Francis Townsend

Masters of Arts

William Edwin Blake, A.B., '07 (History and Public Law)

Thesis: "Washington's Neutrality Policy"

Lucy Helen Gage, A.B., '99 (English)

Thesis: "Realism in the English Novel, in the Eighteenth and Nineteenth Centuries"

Frederic Allen Mooney, B.D., '05, St. Lawrence (English)

Thesis: "Browning's Central Principle"

Ellery Channing Polk, A.B., '01 (History and Public Law)

Thesis: "The Parliamentary View of the Taxation of the American Colonies"

Marion Rich, A.B., '07 (Political Science)

Thesis: "Welfare Institutions in the United States"

Masters of Science

Wilson Tyler Howe (Civil Engineering)

Thesis: "Considerations Governing the Design of Harbors upon the Great Lakes"

Leslie Lawrence Perry (Electrical Engineering)

Thesis: "Twenty Years of Hydro-Electric Transmission"

Commencement Parts

Aimée Edna Currier, Cand. A.B.; "The New Thought that is Old"

George Russell Callender, Cand. M.D.; "Natural Forces in Medicine"

Carlton Leroy Kennedy, Cand. B.S.; "Lightning Protection"

Ray William Clough, Cand. A.B.; "Alchemy in its Relation to Modern Chemistry"

Forrest Le Roy Leland, Cand. M.D.; "Psychotherapy"

Rubens Rea Hadley, Cand. B.D.; "The Survival of the Unfittest"

Honors

Ray William Clough (Chemistry)

Aimée Edna Currier (Greek)

Charles Haskell Danforth (Biology)

Esther Evelyn Ladd (Latin)

Raymond Hale Odell (Philosophy)

Ethel Mason Remele (History and Public Law)

Geneva West (French)

Honorable Mention

Harold Leslie Bailey (Political Science)

Beth Boswell (Greek)

Herbert Ellsworth Howes (Civil Engineering)

Howard Crandall Mason (History and Public Law, and Philosophy)

Clinton Joseph Masseck (English)

Ernest Howard Merchant (Chemistry)

Amy Viola Richards (English)

Francis Warton Kaan Smith (Civil Engineering)

Awards of Prizes, 1907-1908

Entrance Examination Prize

(Not Awarded)

Goddard Prize in Greek

HELEN MARIE MILLER

Goddard Prize in Latin

(Not Awarded)

Goddard Prize in Mathematics

EVELYN HEARSEY

Scholarship of the Class of 1882

GEORGE LAIRD HALL

Scholarship of the Class of 1898

NED CONRAD LOUD

Greenwood Prize Scholarship in Oratory

EVERETT SARGENT WHITE

Moses True Brown Scholarship

LEVI THOMAS HOPKINS

Wendell Phillips Prize Scholarship

WILLIAM ANDREW SARGENT

Rhetorical Prizes

First Prize

LEROY ROLLINS BROOKS

Second Prize

CLINTON JOSEPH MASSECK

Third Prize

GLADYS ALPHA GRAVES

Greenwood Prize in Oratory in the Divinity School

ROGER FREDERICK ETZ

REGISTER OF STUDENTS

Graduate Department

Resident Students

AVERILL, HARVEY EASTMAN	<i>Barre, Vt.</i>	Z Ψ House
<i>A.B., 1908 First Year History and Public Law</i>		
CLOUGH, RAY WILLIAM	<i>Randolph, Vt.</i>	East, 10
<i>A.B., 1908 First Year Chemistry</i>		
DILLINGHAM, ALEXANDER	<i>Bridgeport, Conn.</i>	15 Bellevue St.
<i>A.B., 1907 Second Year Mathematics</i>		
LAMBERT, MARY INGALLS	<i>Tufts College</i>	16 Dearborn Rd.
<i>A.B., 1900 Second Year English</i>		
UNGAR, FRIDA EMILIE	<i>Roxbury</i>	69 Waverly St.
<i>A.B., 1907 Second Year Political Science</i>		

Non-Resident Students

CLARK, CHARLES BROOKS	<i>West Point, N. Y.</i>	U. S. Military Academy
<i>B.S., 1897 First Year Engineering</i>		
PEARSON, GEORGE EDWARD	<i>W. Somerville</i>	
	University of Maine, Orono, Me.	
<i>A.B., 1904, A.M., 1905 Fourth Year History and Public Law</i>		

Courses in Arts and Sciences

[In the following list the course pursued by each student is indicated by the Italic letters immediately following the name. The signs used are as follows: courses leading to the degree of A.B., *ab*; to the degree of S.B.,— in Civil Engineering, *ce*; in Electrical Engineering, *ee*; in Mechanical Engineering, *me*; in Chemical Engineering, *che*; and in the first year of the Engineering Courses, before the differentiation of studies, *e*: to the degree of S.B., through the Science Courses,— in General Science, *sc*; in Biology, *bi*; in Chemistry, *ch*; and the Medical Preparatory, *mp*.

The third column records the home address. The fourth column gives the address at Tufts College, unless the street is printed in *Italics*, in which latter case it is a part of the home address.]

Senior Class

Aiken, Ethel May	<i>ab</i>	<i>Everett</i>	96 Clark St.
Binns, Frank	<i>me</i>	<i>Methuen</i>	West, 15
Bogue, Mary Florentia	<i>ab</i>	<i>Tufts College</i>	29 Capen St.
Bush, Reba May	<i>ab</i>	<i>Chelsea</i>	Metcalf, 3
Butters, Ruth Gertrude	<i>ab</i>	<i>Westerly, R. I.</i>	Metcalf, 2
Case, Ralph Edward	<i>ce</i>	<i>Chicago, Ill.</i>	15 Bellevue St.
Coday, Harrison Sumner	<i>ab</i>	<i>W. Medford</i>	10 Vernon St.
Cole, Ethel May	<i>ab</i>	<i>W. Somerville</i>	29 Raymond Ave.
Cook, Leroy James	<i>ab</i>	<i>Winthrop</i>	A T Ω House
Cousins, Howard Everett	<i>ce</i>	<i>Salem</i>	A T Ω House
Darling, Sumner Eastman	<i>ab</i>	<i>Hardwick, Vt.</i>	Dean, 9
Doane, Lewis	<i>ab</i>	<i>Marblehead</i>	Z Ψ House
Ellis, Lester Fisher	<i>ce</i>	<i>Winter Hill</i>	36 Adams St.
Endicott, Lois Frances	<i>ab</i>	<i>Chelsea</i>	Metcalf, 1
Farnsworth, Ray Dwinell	<i>ab</i>	<i>Taunton</i>	22 Bellevue St.
Francis, Roy William Thompson	<i>ee</i>	<i>Everett</i>	22 Bellevue St.
Gordon, Frank Vincent	<i>che</i>	<i>Everett</i>	West, 4
Gould, Ralph Edgar	<i>ee</i>	<i>Roxbury</i>	55 Beech Glen St.
Graves, Gladys Alpha	<i>ab</i>	<i>Worcester</i>	Start, 3
Hall, William Miller	<i>ee</i>	<i>Middletown, Conn.</i>	Δ T Δ House
Haven, Genevieve Marie	<i>ab</i>	<i>W. Somerville</i>	69 Curtis St.
Hemman, Laurence Merrill	<i>ee</i>	<i>Roslindale</i>	159 Orange St.
Holland, Gertrude Frothingham	<i>ab</i>	<i>Cambridge</i>	118 Walker St.
Hooper, William Ellsworth	<i>ee</i>	<i>Tufts College</i>	124 Professors Row
Howard, Herbert Handy	<i>mp</i>	<i>W. Somerville</i>	139 College Ave.
Hubbard, Carl Perry	<i>ce</i>	<i>Woburn</i>	A T Ω House
King, Louis Bradford	<i>ab</i>	<i>Taunton</i>	Σ T A House
Knowlton, David Bradford	<i>ce</i>	<i>S. Essex</i>	West, 20

Loud, Ned Conrad	<i>ab</i>	<i>Medford</i>	39 <i>Dexter St.</i>
Lunt, Maud Myrtle	<i>ab</i>	<i>W. Somerville</i>	50 <i>Curtis St.</i>
McCarthy, Thomas Joseph	<i>ee</i>	<i>W. Somerville</i>	51 <i>Liberty Ave.</i>
McCoy, Annie Rebecca	<i>ab</i>	<i>Somerville</i>	Metcalf, 9
McDonald, Ray Thomas	<i>ab</i>	<i>Somerville</i>	West, 1
Michael, William Whipple	<i>ce</i>	<i>Kingston, N. Y.</i>	16 <i>Bellevue St.</i>
Miller, Helen Marie	<i>ab</i>	<i>Malden</i>	Start, 3
Mooar, Percy Andrew	<i>ee</i>	<i>Methuen</i>	West, 15
Moore, Ernest Raymond	<i>ee</i>	<i>W. Somerville</i>	59 <i>Wallace St.</i>
Morey, Edwin	<i>me</i>	<i>Brookline</i>	Δ T House
Read, Ernest Dunning	<i>ce</i>	<i>Richford, Vt.</i>	West, 12
Rich, Alice Matilda	<i>ab</i>	<i>Chelsea</i>	Metcalf, B
Robinson, Charles Andrew	<i>ee</i>	<i>W. Somerville</i>	44 <i>Lexington Ave.</i>
Root, Albert Barnard, Jr.	<i>ce</i>	<i>Jamaica Plain</i>	A T Ω House
Sanborn, Marguerite	<i>sc</i>	<i>Pittsburg, Pa.</i>	Metcalf, 8
Sears, Winthrop	<i>ce</i>	<i>Winter Hill</i>	25 <i>Dartmouth St.</i>
Stevens, Walter Leonard, Jr.	<i>me</i>	<i>W. Somerville</i>	5 <i>Kenwood St.</i>
Thayer, Dora Hudson	<i>ab</i>	<i>Medford</i>	Metcalf, B
Tuck, John Alfred	<i>ce</i>	<i>Wakefield</i>	20 <i>West St.</i>
Turner, Homer Root	<i>ce</i>	<i>Willimantic, Conn.</i>	West, 32
Vose, Henry Lorenzo	<i>ee</i>	<i>Roxbury</i>	Dean, 4
Washington, Forrester Blanchard	<i>ab</i>	<i>Dorchester</i>	30 <i>Wesley Ave.</i>
Wellman, Abby Ellen	<i>ab</i>	<i>Westminster West, Vt.</i>	Start, 5
Whippen, Henry Cass	<i>ab-ce</i>	<i>Kingston, N. H.</i>	West, 28

Junior Class

Adams, Gladys Marion	<i>ab</i>	<i>Tufts College</i>	36 <i>Emery St.</i>
Adams, John Alden	<i>ee</i>	<i>Hartford, Conn.</i>	Θ Δ X House
Allen, Richard Congdon	<i>ee</i>	<i>Roslindale</i>	Δ T House
Baker, Crosby Fred	<i>ch</i>	<i>Somerville</i>	8 <i>Bradford Ave.</i>
Bartlett, Lewis William	<i>ce</i>	<i>Dalton</i>	Σ T A House
Bohlin, Oscar Clemens	<i>ce</i>	<i>Somerville</i>	24 <i>Warner St.</i>
Boss, John Grace	<i>ab</i>	<i>Willimantic, Conn.</i>	Θ Δ X House
Burgess, Harold Thomas	<i>ce</i>	<i>Meriden, Conn.</i>	West, 11
Burnham, Helen Stanley	<i>ab</i>	<i>W. Newbury</i>	Metcalf, 11
Byorkman, Signa Eleanor	<i>ab</i>	<i>Hartford, Conn.</i>	Metcalf, A
Cahoon, George Winthrop	<i>ab</i>	<i>Taunton</i>	West, 25
Chandler, Elsie May	<i>ab</i>	<i>Peabody</i>	Metcalf, 11
Chapin, Harry Garfield	<i>ab</i>	<i>N. Andover</i>	East, 11
Chase, Edgar Sawyer	<i>ab</i>	<i>W. Newbury</i>	West, 9
Colman, Irving Page	<i>ab</i>	<i>Somerville</i>	151 <i>Central St.</i>
Conn, Chester Ingalls	<i>ce</i>	<i>Woburn</i>	635 <i>Main St.</i>
Currie, Annie Morinda	<i>ab</i>	<i>W. Somerville</i>	15 <i>Campbell Pk.</i>
Curtis, Leslie Forrest	<i>ee</i>	<i>Assinippi</i>	Z Ψ House

Cushing, Charles Dunn	ee	Houlton, Me.	Δ T House
Dittrick, Clarence Hoffman	ee	Cleveland, O.	Paige, 24
Dolbear, Benjamin Leslie	ee	Tufts College	134 Professors Row
Douglas, James Earl	ce	Hull	West, 22
Ducharme, Francis Leonard	ee	Boston	25 Dalton St.
Ellis, Gilbert Everett, Jr.	ee	E. Brewster	West, 28
Ellis, Roys Arthur	me	Detroit, Mich.	Dean, 5
Etz, Roger Frederick	ab	Cleveland, O.	Paige, 19
Fosdick, Genevieve Louise	ab	Somerville	17 Grand View Ave.
Fuller, George Prescott	ch	Medford	7 Alfred St.
Fullerton, Robert Smith	ab	Roxbury	9 Wayne St.
Gavin, John Harrison, Jr.	ab	Roxbury	Curtis, 9
Glidden, Bernice Evelyn	ab	Medford	25 Emerson St.
Gray, Walter Fairfield	sc	Somerville	Δ T Δ House
Hamilton, Guy	ab	Tufts College	8 Professors Row
Hansen, Edwin Henry	ee	Brockton	West, 10
Hatch, Prentice Manning	ee	W. Somerville	152 Powder House Blvd.
Heap, Samuel James	ce	Middletown, Conn.	West, 32
Hopkins, Levi Thomas	ab	Truro	West, 12
Houston, Henry Clinton	ce	Methuen	Paige, 6
Hulen, George Sanborn	ee	Cliftdale	Dean, 3
Jones, Carleton Parker	ch	Somerville	157 Willow Ave.
Jones, Marion Marble	ab	W. Somerville	1247 Broadway
Kent, Arthur Griggs	ch e	Danvers	East, 9
Killpartrick, Myrtle Mevis	ab	Lowell	Metcalf, 16
Kimball, Robert Samuel	ee	Nashua, N. H.	Δ T House
Knight, Robert Mossman	ab	Tufts College	114 Professors Row
Lamb, Leonard Illman	ce	Attleboro	Δ T House
Leavitt, John Henry	ee	W. Somerville	14 Cutter Ave.
Lee, Patrick Joseph	ab	S. Boston	119 Granite St.
Leonard, Helen May	ab	Stoughton	Metcalf, 3
Lincoln, Raymond Gilbert	ab	Hartford, Conn.	Θ Δ X House
Mailey, John Bruce	ce	Lynn	Paige, 15
Mason, Harold Elliot	me	N. Andover	Curtis, 11
McLeod, Walter Rufus	ee	Boston	Curtis, 9
McNayr, George Everett	ce	N. Hanover	West, 20
Merchant, George Edward, Jr.	ce	Gloucester	Σ T A House
Miller, Harold DeCarterette	ee	Wakefield	West, 24
Morrison, Louise Augusta	ab	Arlington Heights	88 Westminster Ave.
Morrison, William, Jr.	ee	Lawrence	West, 2
Morrison, William Harrison, Jr.	ce	Brockton	West, 28
Murrill, John Jeremiah	ee	Rockland	Curtis, 11

Penniman, Ralph Wentworth	<i>ab</i>	<i>Peabody</i>	Paige, 26
Rextrow, Jennie Mildred	<i>ab</i>	<i>N. Andover</i>	Start, 6
Reynolds, James Alfred	<i>ee</i>	<i>Somerville</i>	21 Dana St.
Ritschy, Donald Percy	<i>ce</i>	<i>Brooklyn, N. Y.</i>	West, 11
Roberts, Henry W	<i>ab</i>	<i>Syracuse, N. Y.</i>	West, 9
Sanders, Ephraim Ericson	<i>ce</i>	<i>Sweden</i>	Σ T A House
Savage, Sidney Leroy	<i>ee</i>	<i>W. Somerville</i>	27 Rogers Ave.
Segitz, Amy Derby	<i>ab</i>	<i>Medford</i>	224 Salem St.
Sheehan, Harry William	<i>ab</i>	<i>Tufts College</i>	101 Winthrop St.
Simmons, Ralph Marquis	<i>ce</i>	<i>W. Somerville</i>	406 Highland Ave.
Smith, Ada Louise	<i>ab</i>	<i>Franklin</i>	Metcalf, 10
Smith, Ruel Howard	<i>me</i>	<i>Attleboro</i>	Paige, 16
Snow, Frederick Orren, Jr.	<i>me</i>	<i>Winchester</i>	39 Forest St.
Soper, Cleveland Conner	<i>ee</i>	<i>Hartford, Conn.</i>	West, 11
Stanford, Walter Smead	<i>ce</i>	<i>Shelburne Falls</i>	West, 2
Starrett, John Phineas	<i>ee</i>	<i>Nashua, N. H.</i>	Z Ψ House
Staveley, John Marr	<i>ce</i>	<i>Dorchester</i>	35 Woodville St.
Sullivan, Eugene Joseph	<i>ab</i>	<i>Winthrop</i>	East, 7
Sweeney, Augusta Reddington	<i>ab</i>	<i>Quincy</i>	72 Phipps St.
Taylor, Chester Warren	<i>ee</i>	<i>So. Yarmouth</i>	Paige, 17
Thorndike, Allston Kinsley	<i>ce</i>	<i>Medford</i>	West, 16
Tolles, Irving Hart	<i>ee</i>	<i>Terryville, Conn.</i>	Δ T Δ House
Towsley, Prentice Williams	<i>ce</i>	<i>Washington, Vt.</i>	Δ T Δ House
Wales, Winthrop Lodge	<i>ce</i>	<i>Hyde Park</i>	Δ T House
Wallace, Earle Sessions	<i>ch e</i>	<i>Pasadena, Cal.</i>	Paige, 5
Ward, Arthur Henry	<i>ab</i>	<i>Brooklyn, N. Y.</i>	A T Ω House
Whitney, Elmar Hursh	<i>ee</i>	<i>Somerville</i>	East, 1
Whitney, Frederic Percy	<i>ce</i>	<i>Somerville</i>	109 Bartlett St.
Wiener, Norbert	<i>ab</i>	<i>Tufts College</i>	11 Bellevue St.
Wood, Robert Lee	<i>ce</i>	<i>Northfield</i>	West, 1
Woods, George Rice	<i>bi</i>	<i>Portsmouth, N. H.</i>	Δ T House
Zion, Samuel	<i>ce</i>	<i>Boston</i>	Curtis, 7

Sophomore Class

Amsden, Clifford Neal	<i>ce</i>	<i>South Boston</i>	Dean, 14
Atwood, Byron Trafton	<i>ce</i>	<i>Salem</i>	West, 18
Bachelor, Charles Albert	<i>ee</i>	<i>Dorchester Centre</i>	116 Evans St.
Baker, Gladys Louise	<i>ab</i>	<i>Provincetown</i>	Metcalf, 4
Bickford, Katharine Neal	<i>ab</i>	<i>Danvers</i>	Start, 4
Blagbrough, Vernon Edmund	<i>ab</i>	<i>Orange</i>	Paige, 18
Blyth, Alexander Watt	<i>ce</i>	<i>W. Somerville</i>	400 Highland Ave.
Bray, Hubert Evelyn	<i>ab</i>	<i>Yarmouth, England</i>	Paige, 12
Brown, Minot Joseph	<i>ab</i>	<i>W. Somerville</i>	11 Morrison Pl.

Browne, Wolstan Elliot	<i>ce</i>	<i>Abington</i>	Δ T House
Bryer, Giles Sherman	<i>ce</i>	<i>Needham</i>	
		32 Dearborn Rd., Tufts College	
Burt, Harry Arthur	<i>ab</i>	<i>Taunton</i>	Dean, 5
Butterfield, Estella Elizabeth	<i>ab</i>	<i>Jacksonville, Vt.</i>	Metcalf, 12
Carritt, Ernest Henry	<i>ab</i>	<i>Tufts College</i>	Paige, 31
Chase, Leo Waldemar	<i>ee</i>	<i>Lowell</i>	Paige, 32
Coldrick, Frank Meloon	<i>ee</i>	<i>Tufts College</i>	81 Quincy St.
Cosgrove, John William, Jr.	<i>ab</i>	<i>Medford</i>	87 Otis St.
Couillard, George Ellis	<i>me</i>	<i>Roxbury</i>	Paige, 20
Crawford, James Stevenson	<i>ee</i>	<i>N. Cambridge</i>	20 Woodbridge St.
Cummings, Leon Franklin	<i>ab</i>	<i>Dorchester</i>	East, 6
Daley, Carroll Thomas	<i>ch</i>	<i>Marlboro</i>	West, 3
Davis, Eugene Reid	<i>ch e</i>	<i>Cambridge</i>	117 Trowbridge St.
Doble, Frank Currier	<i>ee</i>	<i>Methuen</i>	Paige, 7
Dore, Charles Johnson	<i>ab</i>	<i>N. Andover</i>	Σ T A House
DuBroy, Arthur Louis	<i>ee</i>	<i>Cleveland, O.</i>	Paige, 24
Duffey, Audrey Lovejoy	<i>ab</i>	<i>Medford</i>	24 Central Ave.
Dunn, Joseph Brickley	<i>ce</i>	<i>Dorchester</i>	Δ T House
Dustin, Charles Ernest	<i>ce</i>	<i>Dexter, Me.</i>	Δ T House
Edmonstone, William Mathias	<i>me</i>	<i>Everett</i>	28 Dean St.
Fessenden, Edward Everett	<i>ab</i>	<i>Kingston, N. Y.</i>	West, 23
Fox, Harrison Colby	<i>me</i>	<i>Winthrop</i>	East, 33
Gott, Charles	<i>ee</i>	<i>Arlington</i>	41 Medford St.
Granger, Laura Lucina	<i>ch</i>	<i>Winsted, Conn.</i>	Start, 7
Gray, Bernard Elbert	<i>ce</i>	<i>Medford</i>	148 High St.
Gray, Howard Allison	<i>ce</i>	<i>Somerville</i>	71 Wallace St.
Greenwood, Talma Temple	<i>ee</i>	<i>East Templeton</i>	
		32 Dearborn Road, Tufts College	
Guptill, Mark Hoyt	<i>ce</i>	<i>Everett</i>	48 Dean St.
Gurney, Elmer Augustus	<i>ch</i>	<i>Marion</i>	East, 19
Haley, James Joseph	<i>ce</i>	<i>Lowell</i>	East, 28
Hall, George Laird	<i>ce</i>	<i>Somerville</i>	Δ T House
Haverley, Raymond	<i>ce</i>	<i>Greenwich, N. Y.</i>	Curtis, 8
Hayden, Nellie Marr	<i>ab</i>	<i>Malden</i>	Metcalf, 4
Hearsey, Evelyn	<i>ab</i>	<i>Gleasondale</i>	Metcalf, C
Hemenway, Russell Gibbs	<i>ch e</i>	<i>Newton Centre</i>	West, 10
Houghton, Mark Howard	<i>ce</i>	<i>Boston</i>	West, 29
Hulen, Bertram Dyer	<i>ce</i>	<i>Cliftondale</i>	Dean, 3
Hussey, Harold Dudley	<i>ce</i>	<i>Danvers</i>	East, 21
Ireland, Everett Wesley	<i>ee</i>	<i>W. Somerville</i>	28 Appleton St.
Jackson, Leroy Greenwood	<i>ch</i>	<i>Marlboro</i>	West, 6
Kean, Charles Douglas	<i>ab</i>	<i>Dorchester</i>	Paige, 4
Kinsman, Osgood Stevens	<i>ce</i>	<i>Cambridge</i>	West, 18

Kurtz, Harry Barton	<i>ce</i>	<i>N. Attleboro</i>	East, 33
Lamont, Richard Roy	<i>ab</i>	<i>W. Somerville</i>	13 Conwell Ave.
Little, William Parker	<i>ee</i>	<i>Willimantic, Conn.</i>	West, 31
Lowell, James Brower	<i>ce</i>	<i>Somerville</i>	East, 1
MacCurdy, Elmo Douglas	<i>ch</i>	<i>Dorchester</i>	West, 4
MacKay, James Calvin	<i>ee</i>	<i>Waltham</i>	East, 27
MacPhie, Elmer Ira	<i>mp</i>	<i>Winchester</i>	7 Fells Road
Mann, Joseph Frederick Thiele	<i>ee</i>	<i>Boston</i>	West, 13
Marshall, Lawrence Kennedy	<i>ee</i>	<i>W. Medford</i>	West, 29
McClintock, Paul	<i>ee</i>	<i>Chelsea</i>	West, 24
McCollester, Parker	<i>ab</i>	<i>Detroit, Mich.</i>	Dean, 1
McLane, Allen Friend	<i>ce</i>	<i>Roxbury</i>	Dean, 14
Mergendahl, Charles Henry	<i>ce</i>	<i>Tufts College</i>	9 Bellevue St.
Moffitt, Harold Eugene	<i>ab</i>	<i>Malden</i>	Paige, 10
Morton, Joseph Webster	<i>ab</i>	<i>W. Somerville</i>	33 Pearson Road
Moulton, Mollie	<i>ab</i>	<i>Cumberland Center, Me.,</i>	Metcalf, 13
Murray, Clifford Robert	<i>ce</i>	<i>Wethersfield, Conn.</i>	East, 5
Nason, Walter Hooker	<i>ce</i>	<i>N. Billerica</i>	Δ T House
Neagle, Russell Jewett	<i>ee</i>	<i>Medford</i>	52 Bradshaw St.
Nelson, Harold Arthur	<i>me</i>	<i>Mentone, California</i>	West, 13
Noyes, Aaron Burnham	<i>ab</i>	<i>W. Somerville</i>	21 Raymond Ave.
Osler, Edwin John, 2d.	<i>sc</i>	<i>Merchantville, N. J.</i>	West, 25
Partridge, Francis Adams, Jr.	<i>ce</i>	<i>Woburn</i>	3 Charles St.
Pierce, Gardner Miles	<i>ee</i>	<i>Woburn</i>	183 Lexington St.
Prentiss, Charles Goodwin	<i>ab</i>	<i>S. Boston</i>	East, 6
Sargent, William Andrew	<i>ab</i>	<i>Bradford, Vt.</i>	Paige, 11
Sawyer, Mildred Beatrice	<i>ab</i>	<i>Malden</i>	22 Baker St.
Sheehy, Vincent Henry	<i>ch</i>	<i>E. Weymouth</i>	Δ T Honse
Shorley, Marion Christine	<i>ab</i>	<i>Winthrop</i>	19 Bellevue Ave.
Skillin, Fred Burgess	<i>ce</i>	<i>W. Somerville</i>	37 Burnside Ave.
Stevens, Harold Francis	<i>ee</i>	<i>Charlestown</i>	West, 14
Sturtevant, Edith Marian	<i>sc</i>	<i>Lexington</i>	3 Hancock Ave.
Sullivan, Daniel Maynard	<i>ce</i>	<i>E. Boston</i>	West 14
Swartz, Leslie	<i>ce</i>	<i>Wellesley</i>	West, 16
Talbot, Geoffrey Wanstall	<i>ce</i>	<i>W. Somerville</i>	73 Bromfield Rd.
Thompson, Leonard Shute	<i>ab</i>	<i>Malden</i>	Paige, 8
Towne, Edward Martin	<i>ee</i>	<i>Andover</i>	East, 17
Tripp, Augustus Benjamin	<i>ee</i>	<i>Somerville</i>	67 Wallace St.
VanDemark, Ernest Snyder	<i>ce</i>	<i>High Falls, N. Y.</i>	West, 6
Vincent, Max Golden	<i>me</i>	<i>Girard, Pa.</i>	Dean, 13
Washburn, George Francis	<i>ce</i>	<i>Lowell</i>	48 Gates St.
Waterman, Grace Carpenter	<i>ab</i>	<i>Tufts College</i>	Metcalf, C
Whitcomb, Ernest Read	<i>ab</i>	<i>Somerville</i>	358 Broadway

Whitney, Carrol Nathan	<i>che</i>	<i>W. Somerville</i>	38 Wallace St.
Wilbur, Gladys Maude	<i>ab</i>	<i>Tufts College</i>	340 Boston Ave.
Williams, Clifford Elliot	<i>ce</i>	<i>Willimantic, Conn.</i>	West, 31
Williams, Charles Hermon	<i>ce</i>	<i>Salem</i>	East, 32
Willis, Ralph Loring	<i>ch</i>	<i>Three Rivers</i>	Dean, 13
Winship, Sylvanus Davis	<i>ce</i>	<i>Auburn, Me.</i>	East, 28
Wise, Russell Perin	<i>ee</i>	<i>West Newton</i>	Θ Δ X House
Wood, Effie Marie	<i>ab</i>	<i>Mattapoisett</i>	Metcalf, 10

Freshman Class

Abbott, Karl Pennock	<i>sc</i>	<i>Bethlehem, N. H.</i>	West, 5
Anderson, Arthur Julius	<i>e</i>	<i>S. Manchester, Conn.</i>	East, 24
Anderson, Frank William	<i>ee</i>	<i>Meriden, Conn.</i>	West, 26
Atwater, Harry Arthur	<i>che</i>	<i>Somerville</i>	1 Avon St.
Bacon, Charles Aaron	<i>e</i>	<i>Bedford</i>	East, 14
Baird, Harry Albert	<i>e</i>	<i>Somerville</i>	454A Medford St.
Belcher, David	<i>e</i>	<i>Boston</i>	54 Poplar St.
Berthold, Oscar Hudson	<i>ee</i>	<i>Needham</i>	101 Talbot Ave.
Bicknell, Harry Irving	<i>e</i>	<i>Weymouth</i>	Paige, 21
Bingham, Harvey Earl	<i>e</i>	<i>Quaker Hill, Conn.</i>	East, 4
Blunt, Almer Edward	<i>e</i>	<i>E. Somerville</i>	24 Lincoln Ave.
Bogue, Robert Herman	<i>ch</i>	<i>Tufts College</i>	29 Capen St.
Bolton, Forrest Herbert	<i>ce</i>	<i>Northfield</i>	West, 16½
Bradford, Edith Harriet	<i>ab</i>	<i>Somerville</i>	272 Summer St.
Bragdon, Ralph Hasty	<i>ab</i>	<i>S. Boston</i>	5 Pacific St.
Brandt, Arthur Williams	<i>e</i>	<i>Ontario Centre, N. Y.</i>	410 Pleasant St., Malden
Brigham, Ferdinand	<i>ab</i>	<i>S. Framingham</i>	East, 30
Brooks, Marion Louise	<i>ab</i>	<i>W. Medford</i>	47 Auburn St.
Brophy, William Francis	<i>ch</i>	<i>Boston</i>	4 Spring St.
Brown, Stanley Morton	<i>e</i>	<i>Chelsea</i>	Dean, 10
Bruerton, Courtney	<i>ab</i>	<i>Malden</i>	96 Cedar St.
Bugbee, Edwin Percy	<i>e</i>	<i>Methuen</i>	West, 30
Bugbee, Ralph Lawrence	<i>e</i>	<i>Methuen</i>	West, 30
Butler, Benjamin Jarvis	<i>e</i>	<i>Somerville</i>	103 Bartlett St.
Carlton, Lucy Barrett	<i>ab</i>	<i>Chelsea</i>	71A Clark Ave.
Carter, Louis Hayward	<i>e</i>	<i>E. Weymouth</i>	Paige, 9
Chapman, Fred Ingalls	<i>ee</i>	<i>Marblehead</i>	East, 29
Clifford, Robert Cochran, Jr.	<i>e</i>	<i>Arlington</i>	84 Irving St.
Cohen, Harry	<i>ch</i>	<i>W. Somerville</i>	44 Chandler St.
Collins, Elinor Osborne	<i>ab</i>	<i>Exeter, N. H.</i>	Metcalf, 6
Constantinoff, Thomas	<i>e</i>	<i>Bulgaria</i>	929 Massachusetts Ave., Cambridge
Costanza, George	<i>ab</i>	<i>Boston</i>	309 North St.

Davis, Albert William	ch	<i>S. Boston</i>	146 <i>L St.</i>
Day, Ruth Lewis	ab	<i>E. Boston</i>	13 <i>Saratoga St.</i>
Dickinson, Roy Willis	ab	<i>Wiscasset, Me.</i>	Paige, 13
Dobbyn, Edward Thomas	ee	<i>Charlestown</i>	70 <i>Pearl St</i>
Dodds, William Paul	e	<i>Kingston, N. Y.</i>	9 <i>Bellevue St.</i>
Entwistle, Dorothy Russell	ab	<i>Everett</i>	55 <i>Harvard St.</i>
Etheridge, Harold Lowell	ab-e	<i>Somerville</i>	14 <i>Aldersey St.</i>
Faelten, Willibald Carl	e	<i>Roxbury</i>	71 <i>Crawford St.</i>
Fairbank, Parker Wheeler	e	<i>Sudbury</i>	East, 25
Field, Herbert Vaughan	ch	<i>W. Somerville</i>	21 <i>Milton St.</i>
Filteau, Henry Alphonse	e	<i>Lowell</i>	48 <i>Banks St., W. Somerville</i>
Fisher, Austin Wellington	ab	<i>Fitchburg</i>	East, 31
FitzGerald, Raymond Anthony	ch	<i>Cambridge</i>	1 <i>Leonard Ave.</i>
Frost, Walter Sprague	ch	<i>Roxbury</i>	Dean, 10
Fuller, Lena Frances	ab	<i>Everett</i>	63 <i>Cottage St.</i>
Fuller, Philip Ely	e	<i>Thorndike</i>	East, 5
Gallupe, Harold Quimby	ch	<i>Everett</i>	15 <i>Waters Ave.</i>
Gaskin, William	ab	<i>Derry, N. H.</i>	Paige, 25
Gillespie, Norman Wilkinson	mp	<i>Dorchester</i>	Paige, 3
Glasier, Arthur Franklyn	ch	<i>Roxbury</i>	25 <i>Bainbridge St.</i>
Green, Marion Adelaide	ab	<i>Everett</i>	35 <i>Dean St.</i>
Greenough, Maurice Brown	e	<i>Groveland</i>	East, 24
Gross, Frederick William	e	<i>Kingston, N. Y.</i>	101 <i>Talbot Ave.</i>
Hale, Roland Augustus	e	<i>Roxbury</i>	8 <i>Stanwood St.</i>
Hamill, George Keenan	e	<i>Stoneham</i>	18 <i>Park Road</i>
Harris, Nathan Conant	e	<i>Auburn, Me.</i>	Dean, 8
Healey, Arthur Daniel	sc	<i>Somerville</i>	27 <i>Belmont St.</i>
Hechinger, Lloyd Arthur	ch e	<i>Roxbury</i>	31 <i>Lambert St.</i>
Herrick, Ralph Morris	e	<i>Allston</i>	Curtis, 3
Holmes, Lindsley R	e	<i>Oneonta, N. Y.</i>	795 <i>Massachusetts Ave., Arlington</i>
Hood, Walter Sherfey	e	<i>Somerville</i>	16 <i>Preston Road</i>
Hooper, Allen Gunnison	ab-e	<i>Tufts College</i>	124 <i>Professors Row</i>
Hudson, Herbert Harold	e	<i>Saugus</i>	7 <i>Franklin St.</i>
Isola, Vico Cacciatori	e	<i>Waban</i>	Paige, 27
Jackman, Irving Wilson	e	<i>Cambridge</i>	166 <i>Chestnut St.</i>
Jones, William Moshier	e	<i>Swampscott</i>	16 <i>Rockland St.</i>
Kewer, Leo Thomas	e	<i>Waverly</i>	Curtis, 3
Killion, William Vincent	e	<i>Malden</i>	130 <i>Russell St.</i>
Knight, Sue Levina	ab	<i>Westmoreland, N. H.</i>	Metcalf, 15
Lamprey, Pauline Adriana	ab	<i>Medford</i>	11 <i>Fulton St.</i>
Larrabee, Ernest Alonzo	e	<i>Marlboro</i>	East, 9
Leahy, Harold Francis	ab	<i>Milwaukee, Wis.</i>	Dean, 1

Libby, John Edgar	<i>ab</i>	<i>Auburn, Me.</i>	West, 26
Longley, Pearle Emogene	<i>ab</i>	<i>Winchester</i>	77 <i>Walnut St.</i>
Lowe, Robert Manning	<i>ab</i>	<i>Rockport</i> 11 <i>Whitfield Road, W. Somerville</i>	
Lynch, John Francis	<i>e</i>	<i>N. Cambridge</i>	1 <i>Cedar Sq.</i>
Mackin, Clarence Harvey	<i>ab</i>	<i>Manchester</i>	East, 30
Mansfield, Lloyd Lewis	<i>e</i>	<i>Swampscott</i>	East, 34
Marble, Earl Robert	<i>e</i>	<i>Attleboro</i>	East, 34
Martin, Helen Julia	<i>ab</i>	<i>Plainfield, Vt.</i>	Metcalf, 7
Martins, Joseph da Silveira	<i>e</i>	<i>Azores Islands</i>	West, 19
Maulsby, William Shipman	<i>ab</i>	<i>W. Somerville</i>	80 <i>Curtis St.</i>
McGill, Chester Francis	<i>e</i>	<i>Marlboro</i>	West, 3
McKenna, William Joseph	<i>ch</i>	<i>Winthrop</i>	East, 29
McNamara, Michael Joseph	<i>e</i>	<i>Stoughton</i>	East, 10
Medeiros, Roger Maria de Carvalho	<i>e</i>	<i>Nordeste, St. Mickel's, Azores Islands</i>	West, 19
Merrill, Frank Wood	<i>e</i>	<i>W. Somerville</i>	90 <i>Curtis St.</i>
Metcalf, Richard	<i>ab</i>	<i>Providence, R. I.</i> Metcalf Hospital, Winthrop	
Mulry, Mary Stanton	<i>ab</i>	<i>Methuen</i>	Metcalf, 15
Neptune, Frederick Willard	<i>e</i>	<i>Cambridge</i>	East, 20
Nickerson, Roy Gilchrist	<i>ch</i>	<i>Provincetown</i>	East, 25
Olson, Edward Frederick	<i>me</i>	<i>Medford</i>	79 <i>Medford St.</i>
Page, Fred Odell	<i>ab</i>	<i>Plainfield, Vt.</i>	West, 22
Page, Roland Humphrey	<i>e</i>	<i>Boston</i>	339 <i>Massachusetts Ave.</i>
Patten, Francis Howard	<i>e</i>	<i>Marion</i>	East, 19
Phalen, Harold Romaine	<i>e</i>	<i>Acton</i>	East, 14
Phelps, Edward Parkhurst	<i>e</i>	<i>Greenwood</i>	42 <i>Pitman Ave.</i>
Porter, Leslie Ross	<i>e</i>	<i>Peabody</i>	Paige, 22
Powell, Francis C	<i>e</i>	<i>Dorchester</i>	64 <i>Pleasant St.</i>
Quarmby, George Henry	<i>e</i>	<i>Saugus</i>	Dean, 4
Quennell, Alvin William	<i>e</i>	<i>Roxbury</i>	33 <i>Maywood St.</i>
Ray, Malcolm Armour	<i>ce</i>	<i>Pawtucket, R. I.</i>	Dean, 9
Redshaw, Joseph Gaunt, Jr.	<i>ch</i>	<i>Lynn</i>	West, 3
Richert, George David	<i>ab</i>	<i>W. Medford</i>	182 <i>Jerome St.</i>
Ritchie, Effie May	<i>ab</i>	<i>W. Somerville</i>	293 <i>Summer St.</i>
Robinson, Willis Brainard	<i>ab</i>	<i>Hingham Centre</i>	East, 18
Ross, Harry	<i>e</i>	<i>Boston</i>	13 <i>Grove St.</i>
Savage, Percy Godfrey	<i>ch</i>	<i>Medford</i>	15 <i>Lapham St.</i>
Schirmer, Cyrus Thacher	<i>ee</i>	<i>Newton Centre</i>	Δ T Δ House
Schreiber, Herman Louis	<i>e</i>	<i>Jamaica Plain</i>	13 <i>Bishop St.</i>
Schwartz, Samuel	<i>e</i>	<i>E. Billerica</i>	East, 3
Seabury, Ada Bond	<i>ab</i>	<i>Yarmouth, Me.</i>	Start, 1
Shaw, Irving Roland	<i>ch</i>	<i>Palmer</i>	Z Ψ House

Sheehan, Thomas William	<i>e</i>	Malden	479 Pleasant St.
Shepardson, Faoline Reed	<i>ab</i>	Baldwinville	Metcalf, 13
Smith, Alfred Newell	<i>e</i>	Dedham	1 Ashcroft St.
Smith, Lilian Cora	<i>ab</i>	Kensington, N. H.	Metcalf, 6
Spear, Alice Josephine	<i>ab</i>	Hyde Park	Start, 7
Swenson, Ernest Sigfred	<i>sc</i>	Medford	47 Newbern Ave.
Thibodeau, Earle Thomas	<i>ab</i>	Norway, Me.	26 West St., Medford
Vande Bogert, Edith Marguerite	<i>ab</i>	Bearsville, N. Y.	3 Magoun Ave., Medford
Waldron, Maurice Edmund	<i>sc</i>	Hyde Park	112 Highland St.
Weber, Harry Oscar	<i>e</i>	South Wales, N. Y.	East, 12
West, John Albert	<i>e</i>	Medford	3 Malvern Terrace
White, Alfred Baylies	<i>mp</i>	Taunton	Z Ψ House
White, Hazel	<i>ab</i>	Somerville	30 Richdale Ave.
Whiting, Lewis Morton	<i>ee</i>	Accord	East, 18
Wilde, Zilpah	<i>ab</i>	W. Somerville	12 Raymond Ave.
Woodbury, Edna Currier	<i>ab</i>	Somerville	9 Howe St.

Special Students

Boynton, William Henry	Groton	.
I. <i>Medical Preparatory</i>		50 Curtis St., W. Somerville
Bradbury, Alma Gray	Tufts College	15 Bellevue St.
II. <i>Language</i>		
Butler, Helen Louise	W. Medford	17 Irving St.
II. <i>Language</i>		
Daly, John	Lowell	454 Gorham St.
I. <i>Medical Preparatory</i>		
Davis, Beatrice Labaree	Webster	Metcalf, 14
I. <i>Language and Music</i>		
Dodge, Raymond Churchill	Abington	East, 26
I. <i>Medical Preparatory</i>		
Donovan, Juliana Cecilia	W. Somerville	126 College Ave.
III. <i>Language and Mathematics</i>		
Drake, Paul Harris	N. Easton	Paige, 33
I. <i>Philosophy</i>		
Fitch, Albert Parker	Boston	383 Marlboro St.
I. <i>Philosophy</i>		
Gilmore, Howard Pool	Waban	Dean, 8
II. <i>Science</i>		
Hallett, Caroline M. (Mrs.)	Brookline	57 Bartlett Crescent
I. <i>Philosophy</i>		

Harmon, Helen Althea	<i>Tufts College</i>	<i>114 Curtis St.</i>
I. <i>Science and Language</i>		
Hight, William Webster	<i>Portland, Me.</i>	West, 5
I. <i>Science and Language</i>		
Jackson, Helen Camille	<i>Medford</i>	<i>86 Otis St.</i>
I. <i>Language</i>		
Laflamme, Sidney Isaac	<i>Lowell</i>	<i>27 Queen St.</i>
I. <i>Medical Preparatory</i>		
Livermore, Imogene Hopkins	<i>Medford</i>	<i>129 Forest St.</i>
I. <i>Science and Language</i>		
MacEachran, Clinton Edson	<i>Everett</i>	<i>52 Winthrop St.</i>
I. <i>Medical Preparatory</i>		
McAloon, Raymond Francis	<i>Keeseville, N. Y.</i>	East, 4
I. <i>Medical Preparatory</i>		
McCarthy, Kathryn Josephine	<i>W. Somerville</i>	<i>51 Liberty Ave.</i>
I. <i>Science and Language</i>		
Moyer, Ruth	<i>Hartford, Conn.</i>	Metcalf, 2
II. <i>English</i>		
Nason, Waldron Kenison	<i>Jamaica Plain</i>	<i>Lowders Lane</i>
I. <i>Medical Preparatory</i>		
Pierce, Harry Walker	<i>W. Medford</i>	<i>Hastings Lane</i>
II. <i>Chemistry</i>		
Robins, Samuel	<i>Boston</i>	<i>6 Chambers Ct.</i>
I. <i>Medical Preparatory</i>		
Rodriguez, Enrique	<i>Barranquilla, Colombia</i>	
I. <i>Medical Preparatory</i>		9 Bellevue St.
Sears, Langley Barnas	<i>Charlestown</i>	<i>76 High St.</i>
I. <i>Philosophy</i>		
Shepard, Bertha Maria	<i>Everett</i>	Metcalf, 15
II. <i>Language and Music</i>		
Sim, Albert Berry	<i>Peabody</i>	East, 20
I. <i>Chemistry</i>		
Steinberg, Antonia Adeline	<i>Webster</i>	Metcalf, 12
II. <i>Language</i>		
Waite, Gladys Marie	<i>Tufts College</i>	<i>The Evergreens</i>
III. <i>Language</i>		
Waterman, Charlotte Jane	<i>Tufts College</i>	Metcalf
I. <i>German and Music</i>		

Wheeler, Edgar Couch, A.M., B.D. *Rockland*

I. *Philosophy*

Zeller, Joseph William

W. Newton

West, 1

I. *Electrical Engineering*

Supplementary List

[Students present during 1906-07, but not appearing in the catalogue]

Berthold, Oscar Hudson

ee Needham

101 Talbot Ave.

Nieveen, Sieuwke Martin

sp Tufts College

50 Hillsdale Road

Whitney, Frederic Percy

ce Somerville

109 Bartlett St.

Theological School

THREE-YEAR COURSE

First Year

Morton, George Fisher, B.S., '99; M.S., '00

W. Somerville

Paige, 2

FOUR-YEAR COURSE

Third Year

Boorn, George Clyde

Adams

Paige, 36

First Year

Robertson, Forbes William

Arlington

23 Whittemore St.

SIX-YEAR COURSE

Fifth Year

Vogt, Dayton George, A.B., '08

Buffalo, N. Y.

Θ Δ X House

Fourth Year

Etz, Roger Frederick

Cleveland, O.

Paige, 19

Third Year

Carritt, Ernest Henry

Tufts College

Paige, 31

Second Year

Blagbrough, Vernon Edmund

Orange

Paige, 18

First Year

Gaskin, William

Derry, N. H.

Paige, 25

Special Students

Hale, Arthur Thomas

Lawrence

Paige, 1

Irwin, Walter Edward

Philadelphia, Pa.

Paige, 29

Nieveen, Sieuwke Martin

Tufts College

50 Hillsdale Road

Rose, William Wallace

Philadelphia, Pa.

Paige, 34

Smith, Elbert Jesse

Brookfield

Paige, 30

Bromfield-Pearson School

Cerda, Arturo Gonzalez	<i>Morelia, Michoacan, Mexico</i>	
	1673 Cambridge St., Cambridge	
Coombs, Harry	<i>Malden</i>	East, 33
Cunningham, Raymond John	<i>S. Hadley Falls</i>	East, 15
Foley, Winthrop Edwin	<i>Beverly</i>	East, 21
MacKillop, Daniel Alexander	<i>Cape Breton, Can.</i>	
	49 Union Pk., Boston	
Morse, Brett Arthur	<i>Dexter, Me.</i>	East, 31
Olmsted, Robert Sandford	<i>N. Reading</i>	East, 15
Raymond, George Stanley	<i>N. Cambridge</i>	51 Upland Road
Secoy, Edgar David	<i>Johnstown, N. Y.</i>	Paige, 14
Stedman, Herbert David	<i>Everett</i>	398 Ferry St.

Medical School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Fourth Year

Abbe, Elizabeth Morrison	<i>Boston</i>
Azadian, David George	<i>Boston</i>
Bailey, William	<i>Boston</i>
Baker, Chester Stoye	<i>Lynn</i>
Barrier, Emile August	<i>Cambridge</i>
Blanchard, William Herbert	<i>Roxbury</i>
Blanchard, Winthrop Shirley	<i>Holyoke</i>
Boyden, Arthur Henry	<i>Dorchester</i>
Brady, William Francis	<i>Milford</i>
Campbell, Fred Glover	<i>Rockland, Me.</i>
Capeles, Thomas Francis	<i>Haverhill</i>
Carvell, Hanford	<i>Medford</i>
Cassels, Louis Raymond	<i>Attleboro Falls</i>
Caswell, Walter Emery	<i>Brockton</i>
Conway, William Stanislaus	<i>Uxbridge</i>
Conwell, Walter Livingstone, Jr.	<i>Boston</i>
Cook, James Henry	<i>Brookline</i>
Coupal, James Francis, B.S. (Tufts)	<i>Everett</i>
Crawford, Frank Wallis	<i>S. Weymouth</i>
Crummett, Florence Estelle	<i>Exeter, N. H.</i>
Derby, Charles Arthur	<i>Boston</i>
Donovan, Thomas Roche	<i>Quincy</i>
Donovan, Walter James	<i>Providence, R. I.</i>
Dow, Jessie Anderson	<i>Claremont, N. H.</i>
Folger, George Arthur	<i>Melrose Highlands</i>
Frawley, William Thomas	<i>Marblehead</i>
Frisbee, Edward Boston	<i>Bridgton, Me.</i>
Gerald, Herbert Franklin, PH.G. (Mass. Coll. Phar.)	<i>Turners Falls</i>
Gormly, Charles Francis	<i>Providence, R. I.</i>
Graham, Jay Perry	<i>Boston</i>
Harkins, William Joseph	<i>Quincy</i>
Hayes, Will Francis	<i>Georgetown</i>
Holmes, John Franklin	<i>Belfast, Me.</i>
Jessaman, Leon Webster	<i>Boston</i>
Kelleher, James Patrick	<i>Brockton</i>
Kelley, Catherine Rose	<i>Nashua, N. H.</i>

King, George Clifford	<i>Newton Highlands</i>
Knowlton, Edward Allen, B.S. (Tufts)	<i>W. Newton</i>
Knudson, Mette Marie	<i>Cambridge</i>
Lewis, Charles Bernard	<i>Tufts College</i>
Mains, Herbert Llewellyn	<i>Danvers</i>
Mayo, Thomas Franklin	<i>Boston</i>
McRae, Alexander John	<i>Worcester</i>
Mitchell, Howard Dykeman	<i>So. Wellfleet</i>
Monahan, Edward James	<i>Bridgewater</i>
Moore, Francis Vincent	<i>Dorchester</i>
Muir, Robert Joseph	<i>Dorchester</i>
Murray, Benjamin Frank	<i>Boston</i>
Myrick, Alfred Winthrop	<i>Kingston</i>
Naurison James Zuslofsky	<i>Boston</i>
O'Connor, Patrick Henry	<i>New Bedford</i>
O'Rourke, Edward James	<i>Somerville</i>
Paine, Mortimer Harwood	<i>Harwich</i>
Pariseau, George Emory, PHARM. D.	<i>Worcester</i>
Parker, Harold Francis	<i>Boston</i>
Perry, Charles Eugene	<i>Athol</i>
Place, Philip Wilfred	<i>Franeestown, N. H.</i>
Reebel, Arthur Scott	<i>Youngstown, Ohio</i>
Reynolds, Frank Leo Sinclair	<i>Somerville</i>
Rosenbloom, Carl Webber	<i>Boston</i>
Runnells, John Edmunds, M.D.	<i>Rutland</i>
Schillander, Carl Axel	<i>Dorchester</i>
Scorgie, Helen Christine, A.B. (Radcliffe) . .	<i>Cambridge</i>
Scott, George Henry	<i>Roxbury</i>
Spaulding, Edith Rogers	<i>Stony Brook</i>
Spaulding, John Doliver	<i>Mansfield</i>
Sullivan, Andrew Joseph	<i>Brockton</i>
Sullivan, Patrick Joseph	<i>Salem</i>
Taylor, Fred Bowers	<i>Concord, N. H.</i>
Towle, George Pierce	<i>Boston</i>
Turner, William Kenneth	<i>Taunton</i>
Underwood, Gordon Brooks	<i>Dorchester</i>
Vinal, Leslie Thorning A.B. (Smith)	<i>Somerville</i>
Westcott, Clement Plummer	<i>Portland, Me.</i>
Whelan, Edmond Vincent	<i>Natick</i>
White, George Arthur	<i>Cambridge</i>
White, John Robert	<i>Williamsville, Vt.</i>

Third Year

Bliss, Raymond Whitcomb	<i>Belmont</i>
Bolduc, Alfred George	<i>Fall River</i>
Burnett, Louis Raymond	<i>Des Moines, Iowa</i>
Byrne, Claude James	<i>Concord, N. H.</i>
Cameron, Edward Spence	<i>Pawtucket, R. I.</i>
Chandler, Charles Henderson	<i>Boston</i>
Clark, Harry Ainsworth	<i>Dorchester</i>
Cook, William Wilder	<i>Brookline</i>
Crandall, Walter Midkiff	<i>Lynn</i>
Cummings, Dana Frank	<i>Natick</i>
Davidson, Alfred, PHARM. D.	<i>E. Boston</i>
Dodd, John Edward	<i>Holliston</i>
Drummev, Joseph Leonard	<i>Waltham</i>
Ducharme, Alphonse Napoleon, B.L. (Laval)	<i>Worcester</i>
Earle, George William	<i>Dorchester</i>
Fishman, Maurice	<i>Lawrence</i>
Funnell, Wilfred Goldwin	<i>Fall River</i>
Granstein Charles Israel	<i>Chicopee</i>
Hassett, Leonard Watson	<i>Lynn</i>
Heffernan, Dennis William	<i>Holliston</i>
Herrin, Herbert Eliot	<i>Boston</i>
Hughes, Frank	<i>Everett</i>
Kagan, Samuel Henry	<i>Roxbury</i>
Kenney, Clarence Brunson	<i>Sharon, Vt.</i>
Kerr, Robert Brown	<i>Roxbury</i>
Lamoureux, Stanislas Albert	<i>New Bedford</i>
Lawley, Brace Irving	<i>Skowhegan, Me.</i>
Leonard, Christina Margaret	<i>Lewiston, Me.</i>
Loredo, Serafin	<i>Havana, Cuba</i>
Lynch, William	<i>Medford</i>
Marston, Warren Winfield	<i>Cochituate</i>
Martin, Oscar	<i>Tufts College</i>
McCarthy, Eugene Francis	<i>Cambridge</i>
McMahon, Francis Joseph	<i>Brookline</i>
Murphy, Dennis John	<i>Worcester</i>
Murphy, John Patrick Henry	<i>Cambridge</i>
Myers, Edward Louis	<i>Woonsocket, R. I.</i>
Olin, Harry	<i>Somerville</i>
O'Sullivan, Anna	<i>Boston</i>
Owen, Albert Simpson	<i>South Framingham</i>
Penny, Mary McDermott	<i>Cliftondale</i>
Perkins, Franklin Aborn	<i>Madbury, N. H.</i>
Pobirs, Louis Jacob	<i>Providence, R. I.</i>

Pulsifer, Nathan	<i>Auburn, Me.</i>
Richards, Cyril Godfrey	<i>Boston</i>
Rosen, David William	<i>Boston</i>
Slater, Eleanor Mary	<i>Boston</i>
Smith, Earl Moulton	<i>Boston</i>
Sprague, Russell Bradford	<i>Providence, R. I.</i>
Stearns, Albert Warren	<i>Billerica</i>
Thomas, Elmer Ellsworth	<i>Milford</i>
Toomey, Joseph Humphrey	<i>S. Boston</i>
Tripp, Edwin Prescott	<i>Beverly</i>
Tynan, Joseph Patrick	<i>Boston</i>
Webb, Albert Edward	<i>Salem</i>
Welch, Daniel Edward	<i>Salem</i>
White, Robert Marshall	<i>Cambridge</i>

Second Year

Ahern, John Francis	<i>Dorchester</i>
Ahlstrom, Hjalmar	<i>Boston</i>
Bailey, Karl Roland	<i>Jamaica Plain</i>
Barney, Willis Oliver	<i>Worcester</i>
Barone, Joseph	<i>Boston</i>
Behrman, Roland Augustus	<i>Waltham</i>
Belin, Harry	<i>Boston</i>
Bicknell, Ralph William	<i>Canton, Me.</i>
Bigelow, James Bernard	<i>Holyoke</i>
Blanchard, Paul Drake	<i>Oldtown, Me.</i>
Blount, Samuel Gilbert	<i>Providence, R. I.</i>
Boyd, Francis Peter	<i>Brockton</i>
Boyd, James Francis	<i>Brockton</i>
Brown, Chester Perkins	<i>Watertown</i>
Brunick, Patrick Vincent	<i>S. Boston</i>
Buck, Clifton Leon	<i>Wilton, Me.</i>
Cantarow, Daniel, PH.G.	<i>Hartford, Conn.</i>
Caswell, Walter Wells	<i>Boston</i>
Church, Belle Seddon	<i>Cambridge</i>
Church, Claude Henry	<i>Cambridge</i>
Claffy, John McMahon	<i>Taunton</i>
Clarke, Thomas Greene	<i>Fall River</i>
Coates, Edward Augustus, Jr.	<i>Winthrop</i>
Cohen, Nathaniel Maurice	<i>Roxbury</i>
Comerford, Ethel Frances	<i>Athol</i>
Condrick, John Joseph	<i>Weymouth</i>
Conley, Brainard Francis	<i>Ipswich</i>
Cooney, Margaret Blanche	<i>West Newbury</i>

Coppinger, Sarah Elisabeth	<i>Needham Heights</i>
Cosgrove, Joseph Justin	<i>Hopkinton</i>
Coursey, Frank Rudolph	<i>Boston</i>
Courtemanche, Joseph Arthur	<i>Marlboro</i>
Croke, Louis Ward	<i>New Dorchester</i>
Crowley, Esmond Richardson	<i>Danvers</i>
Cummings, Frank Anthony	<i>Providence, R. I.</i>
Currier, Cyrus Richardson	<i>Dorchester</i>
Dow, Frank Edward	<i>Lynn</i>
Drury, John Aloysius	<i>N. Attleboro</i>
Dunbar, Edgar Joseph	<i>Pawtucket, R. I.</i>
Dwyer, John Edward, Jr.	<i>Cambridge</i>
Eager, Harold Williams	<i>Manchester, N. H.</i>
Eaton, Henry Douglas	<i>Boston</i>
Edelstein, Samuel	<i>Roxbury</i>
Edwards, Bessie Lee	<i>Salem</i>
Fennelly, Daniel John	<i>Fall River</i>
Foley, Pauline Muriel	<i>Brighton</i>
Forhan, Neil Kittredge	<i>Canton, Me.</i>
Gaggioli, Gaggiolo	<i>Boston</i>
Garipay, Ellsworth Peter	<i>Holyoke</i>
Garry, John Joseph	<i>Methuen</i>
Golden, Joseph Francis	<i>Roxbury</i>
Gwinnell, Alfred Weston	<i>Boston</i>
Hagopian, Levon George	<i>Boston</i>
Heaslip, George William	<i>Woburn</i>
Henderson, Frank Francis	<i>Roxbury</i>
Hennessey, Thomas Francis	<i>Weymouth</i>
Ireson, Franklin Reynolds	<i>Marblehead</i>
Jamieson, Earl Frederick	<i>Brainerd, Minn.</i>
Johnson, Alfred Emile, Jr.	<i>Dedham</i>
Johnson, Gertrude Christine	<i>S. Manchester, Conn.</i>
Kaplovitch, Henry	<i>Lawrence</i>
Kelley, Edward Joseph	<i>Brookville</i>
Kennington, Henry Carter	<i>Boston</i>
Kindregan, Thomas Henry	<i>Brockton</i>
Kinsella, Michael Allen	<i>Auburn, N. Y.</i>
Lee, John Alphonse	<i>Woonsocket, R. I.</i>
Lennon, John Marcus	<i>Jamaica Plain</i>
Lussier, Waldo James	<i>Woonsocket, R. I.</i>
Lynch, Henry Edmund	<i>Holyoke</i>
Macaulay, Joseph Arthur	<i>Boston</i>
Mackenzie, Roland Chester	<i>Waltham</i>

MacQueen, James Allen	<i>Boston</i>
Marr, Edward Loring	<i>Malden</i>
Martin, Edward	<i>Boston</i>
Messier, Adlor Eugene	<i>Worcester</i>
Middleton, Charles Henry	<i>Roxbury</i>
Miller, William Henry, A.B. (Lincoln)	<i>Boston</i>
Milliken, Walter Lowell	<i>Woodfords, Me.</i>
Moriarty, John Joseph	<i>Danvers</i>
Morse, Alfred Irving	<i>Cliftondale</i>
Mountford, Arthur Harold	<i>Salem</i>
Ogden, John Edmund	<i>Brighton</i>
Oulton, Lamert, PHARM.D. (Mass. Coll. Phar.)	<i>Port Elgin, N. B.</i>
Pearl, Samuel Maurice	<i>Boston</i>
Perkins, Hamilton Chesley	<i>Madbury, N. H.</i>
Peter, Alphonse Joseph	<i>Salem</i>
Poirier, George Henri	<i>Salem</i>
Pollina, Vincent Josephine :	<i>Boston</i>
Power, James Edward, D.M.D.	<i>Providence, R. I.</i>
Preble, Grace Olive	<i>E. Boston</i>
Quennell, Willard Leslie	<i>Roxbury</i>
Quinby, Robert Stanley	<i>N. Sandwich, N. H.</i>
Remick, Sumner Haven	<i>Reading</i>
Robertson, Wilhelmine	<i>Arlington</i>
Scott, Norman McLean	<i>Melrose Highlands</i>
Seavey, Hollis Lester	<i>Cambridge</i>
Shapleigh, Harry Lee	<i>Somerville</i>
Steward, Carleton White, A.B. (Colby)	<i>Rockport, Me.</i>
Stone, Jane Gray	<i>Melrose</i>
Strom, Marie Charlotte	<i>Medford</i>
Tibbetts, Guy Daniel	<i>Gloucester</i>
Waldie, George McLeod	<i>Dorchester</i>
Walsh, Thomas Frank	<i>Roxbury</i>
Waterhouse, Roscoe Morgan	<i>Somerville</i>
White, Henry Alverado	<i>Taunton</i>
Willoughby, Earl Carlisle	<i>N. Haverhill, N. H.</i>
Wilson, John Thomas	<i>Salem</i>
Wyman, Edwin Theodore	<i>Sebec, Me.</i>
Young, Annie Roberts	<i>S. Berwick, Me.</i>

First Year

Abbott, Samuel Edson	<i>Boston</i>
Adamian, Mariam Garoudj	<i>Boston</i>
Albert, Lionel Louis	<i>Malden</i>
Allard, Carl Eugene	<i>Allerton, Iowa</i>

Allison, Carl Edwin	<i>Wakefield</i>
Ayers, Charles Elton	<i>Taunton</i>
Barrow, Allen Rogers	<i>Allston</i>
Bell, William Tilden, PH.G	<i>Roxbury</i>
Benway, Charles Alfred	<i>Somerville</i>
Bettencourt, John Maximilian Baptist, PH.G.	<i>New Bedford</i>
Bourque, Edgar Guy	<i>Moncton, N. B.</i>
Brown Ralph Neally	<i>Meredith, N. H.</i>
Brown, Roy Farrington	<i>Provincetown</i>
Brunelle, Arthur	<i>New Bedford</i>
Burrell, Harry Cutter	<i>Medford</i>
Cameron, Hartwell Dyer	<i>Boston</i>
Choate, Charles Randall	<i>Waterville, Me.</i>
Clarke, Willis Earl	<i>Portland, Me.</i>
Cleary, Robert Emmett	<i>Holyoke</i>
Colwill, Albert William, PHARM.D.	<i>Magnolia</i>
Commis, Edward Francis	<i>Somerville</i>
Corthell, Mary Hill	<i>Eastport, Me.</i>
Corvese, Anthony, PH.G.	<i>Providence, R. I.</i>
Couch, Mary Catherine	<i>Somerville</i>
Courtney, Thomas Joseph	<i>Worcester</i>
Cudworth, Cora Lincoln	<i>Boston</i>
Curran, John Francis	<i>Wheelwright</i>
Cutler, Myron Fred	<i>Somerville</i>
Cutler, Raymond William	<i>Bristol, N. H.</i>
Devaney, Luke Terrence	<i>Reading</i>
DeWolf, Charles Wentworth	<i>W. Somerville</i>
Dickson, Ellsworth Joseph Murray	<i>W. Somerville</i>
Downie Charlie DeVaudry	<i>W. Somerville</i>
Driscoll, Robert Ellsworth	<i>Cambridge</i>
Drumm, James Harold	<i>Dedham</i>
Duncan, Stanley Forbes	<i>Quincy</i>
Dunn, James Ringer	<i>Winthrop</i>
DuVally, James Francis	<i>Boston</i>
Espejo, Gonzalo	<i>Merida, Yucatan, Mexico</i>
Finkel, Samuel Paul	<i>Boston</i>
Finkelstein, Nathan	<i>Boston</i>
Fitzpatrick, George Edward	<i>N. Bellingham</i>
Flannagan, Frank Joseph	<i>Portland, Me.</i>
Flink, Aaron Nathan	<i>Boston</i>
Flynn, Joseph Francis Xavier	<i>Lowell</i>
Forrest, Erle D.	<i>Boston</i>
Gale, Eugene Manson	<i>Amesbury</i>

Gechgass, Gershon	<i>Chelsea</i>
Gervais, Harriet Marion	<i>Westboro</i>
Giles, William Benard	<i>W. Somerville</i>
Gilman, Samuel Thomas	<i>Peabody</i>
Ginn, James Richard	<i>W. Harwich</i>
Godvin, Bernard Aloysius	<i>Jamaica Plain</i>
Greenblatt, Hattie	<i>Providence, R. I.</i>
Gwynne, Samuel Carlton	<i>Melrose</i>
Haley, William Thomas	<i>Marblehead</i>
Hanscom, Ridgely Fernald	<i>New London, Conn.</i>
Harrington, Daniel James Leo	<i>Dorchester</i>
Hartnett, John Henry	<i>Worcester</i>
Healey, Bernard Charles	<i>Boston</i>
Heap, Richard Dunham	<i>Fall River</i>
Holt, Darius Pearson	<i>Milford, N. H.</i>
Howard, Herbert Handy	<i>W. Somerville</i>
Howard, Irma Ruth	<i>Roxbury</i>
Hull, Ira Bntler, A.B. (Bates)	<i>Lewiston, Me.</i>
Jakmauh, Paul John	<i>S. Boston</i>
Johnson, Cecil Haven	<i>Boston</i>
Jones, Guy Walter Stanley	<i>Waltham</i>
Jordan, Harmon Paul Buffum	<i>Holliston</i>
Judd, Ernest Hart	<i>W. Hartford, Conn.</i>
Kaplan, Morris	<i>Boston</i>
Keating, William Bernard	<i>Natick</i>
Kelleher, Simon Bartholomew	<i>Cambridge</i>
Kelley, Lawrence Kendall	<i>Haverhill</i>
Kemp, Lysander Schaffer	<i>N. Cambridge</i>
Khoury, Nasim Iskander	<i>Boston</i>
Kiley, Daniel Joseph, Jr.	<i>Peabody</i>
King, Drue	<i>Boston</i>
Kirmayer, Fritz George	<i>Bridgewater</i>
Lane, John Andrew	<i>Cambridge</i>
Largay, Arthur Owen	<i>Bangor, Me.</i>
Larrabee, Charles William	<i>Revere</i>
Ledoux, Arthur	<i>Fall River</i>
Leonard, Edward McMahon	<i>Woodstock, Vt.</i>
Levin, Herman Harry	<i>Middletown, Conn.</i>
Locke, Harry Leslie Franklin	<i>Hudson</i>
Lundgren, Everett Martin	<i>Andover</i>
MacGray, Charles Leverne	<i>Melbourne, N. S.</i>
Macmaster, Anna Elysa	<i>N. Cambridge</i>
MacNaughton, Cordelia Isabella	<i>Boston</i>

Madden, John Joseph, Jr.	<i>Waltham</i>
Marcus, Jacob	<i>Boston</i>
Marr, David Finlay	<i>Westerly, R. I.</i>
Marr, Robert McClellan	<i>Westerly, R. I.</i>
Martin, Harold Winthrop	<i>Roxbury</i>
McGann, Pierce Powers	<i>Somerville</i>
McGill, Chester Francis	<i>Marlboro</i>
McLaughlin, Arthur Otis	<i>Haverhill</i>
McManama, Carl	<i>Waltham</i>
McWeeny, Bernadette Marie	<i>Arlington</i>
Middleton, Willis Pearl	<i>Quincy</i>
Millett, Frank Alburtus	<i>Swampscott</i>
Monaghan, Mary Frances	<i>Waltham</i>
Morin, Joseph Emile	<i>Lawrence</i>
Morse, Karl Goff	<i>Dexter, Me.</i>
Moss, Charles Francis	<i>Providence, R. I.</i>
Murphy, Daniel Francis	<i>Waltham</i>
Mysel, Philip	<i>Boston</i>
Nichols, Guy Edward	<i>Wilmington</i>
O'Brien, Edward Joseph, Jr.	<i>E. Boston</i>
O'Brien, Frederick William	<i>Roxbury</i>
O'Donnell, Charles Henry	<i>Somerville</i>
O'Malley, Charles Francis	<i>Clinton</i>
O'Reilly, Frank White	<i>Dedham</i>
Partington, Cyrus Brown	<i>Fall River</i>
Pavlo, Samuel George	<i>Jamaica Plain</i>
Powers, James Joseph	<i>Manchester, N. H.</i>
Reynolds, James Edward	<i>Manchester, N. H.</i>
Robert, Martha Beatriz	<i>Mayaguez, Porto Rico</i>
Robinson, Horace Eddy	<i>Bradford</i>
Ruel, Joseph Adjutor	<i>Haverhill</i>
Sacowitz, Henry Edward	<i>S. Boston</i>
Schön, Edward	<i>Roxbury</i>
Segall, Samuel Kelman	<i>Somerville</i>
Shaw, Celeste Beatrice	<i>Boston</i>
Sheridan, Philip Edward Anthony, A.B. (Tufts)	<i>S. Boston</i>
Shields, Luke Edward	<i>Roxbury</i>
Spinney, Frederic Ira	<i>Boston</i>
Sproat, William Delano	<i>Everett</i>
Stamp, Floyd R.	<i>Alliance, Ohio</i>
Sweet, George Leo	<i>Worcester</i>
Sweet, John Henry Throop, Jr.	<i>Hartford, Conn.</i>
Tobey, Henry Pratt	<i>Great Barrington</i>

Trachtenberg, Julius Caesar	<i>Roxbury</i>
Tully, George William	<i>Southbridge</i>
Turetzky, William Leo	<i>E. Boston</i>
Weatherbee, George Bradford	<i>Lee, Me.</i>
Wellington, Anna Colburn	<i>Boston</i>
Woodside, John Nelson	<i>Cambridge</i>

Special Students

Alleyne, James Douglas	<i>Barbadoes, W. I.</i>
Centervall, Ivan Alexis Teofil, D.M.D.	<i>Roxbury</i>
Dixon, Arthur	<i>Worcester</i>
Dunham, Harry Bartlett	<i>Brockton</i>
Friedman, Nachem	<i>Boston</i>
Hagerty, Harry John	<i>Arch Spring, Pa.</i>
McCabe, Alice	<i>White River Junction</i>
McFadyen, John Young	<i>Tignish, P. E. I.</i>
Minagawa, Koki, M.D.	<i>Tokyo, Japan</i>
Mouradian, Yacoub Garoudj, A.B. (Aintab, Tur. key)	<i>Boston</i>
St. Angelo, Joseph Anthony	<i>Providence, R. I.</i>
VonGerber, Wilhelmina Georgina Marie, A.B. (Bryn Mawr)	<i>Weston</i>

Post-Graduate

Clement, Lydia Ramsdell, M.D.	<i>Brookline</i>
Rice, Harriett Alleyne. A.B., M.D.	<i>Boston</i>

Dental School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Third Year

Blowe, Alfred Tevis	<i>Lee</i>
Bragdon, Nathaniel Woodbury	<i>Danvers</i>
Brayshaw, Walter Clayton	<i>North Weymouth</i>
Briggs, Walter Emerson	<i>Attleboro</i>
Burns, Charles Joseph	<i>Worcester</i>
Burr, LeRoy Eli	<i>Kingston, N. Y.</i>
Carney, Matthew Francis	<i>Lawrence</i>
Cohen, Nathan Nason	<i>Roxbury</i>
Copithorn, Walter Edward	<i>Natick</i>
Donovan, Edward John	<i>Wakefield</i>
Duddy, James J.	<i>Malden</i>
Eames, Haller Boynton	<i>Wollaston</i>
Emery, Grace Chandler	<i>Biddeford, Me.</i>
Finni, Joseph Nicholas	<i>New Bedford</i>
Gates, Ernest Willoughby	<i>E. Dedham</i>
Gethro, Joseph Cornelius	<i>Norwood</i>
Goldstein, Edward Arthur	<i>Malden</i>
Hewson, Ross Francis	<i>West Somerville</i>
Hughes, Anna Veronica	<i>Roxbury</i>
Keefe, John Eugene	<i>Fall River</i>
Kèene, Herman Leroy	<i>Allston</i>
LeClair, Charles Arthur	<i>Bristol, R. I.</i>
Levy, Joseph	<i>Boston</i>
Lovejoy, Rupert Scott	<i>Portland, Me.</i>
Mackinnon, Frederic Archibald	<i>Churchill, P. E. I.</i>
Mahoney, Joseph Aloysius	<i>Waltham</i>
McGourty, Garret Thomas	<i>Boston</i>
McNally, Edmund James	<i>Biddeford, Me.</i>
McVey, James Johnston	<i>Haverhill</i>
Mongovan, Harold Eaton	<i>Bangor, Me.</i>
Murphy, James Francis	<i>Monson</i>
Murray, Waldo Hill	<i>Somerville</i>
Perkins, Harry Winfield	<i>Topsfield</i>
Rowe, Catherine Agnes	<i>Watertown</i>
Smith, Harold Earle, B. S. (Dartmouth)	<i>Athol</i>
Stegmaier, Carl Wyman	<i>Kingston</i>

Swig, Hyman Bernard	<i>Taunton</i>
Weinstein, Julius Samuel	<i>Dorchester</i>
Wheaton, Frederick Blair	<i>W. Somerville</i>
Wry, Charles Butler	<i>Dorchester</i>
Young, Leonard Deleston	<i>S. Union, Me.</i>

Second Year

Badgley, Louis Albert	<i>Portland, Oregon</i>
Bagnall, Melville Crawford	<i>Roslindale</i>
Baker, Edwin Carlisle	<i>Roslindale</i>
Baker, Ralph Vincent	<i>Marshfield</i>
Becker, Frederick William	<i>Hyde Park</i>
Billings, Charles Harper	<i>Canton</i>
Bliss, Orville Thayer	<i>Providence, R. I.</i>
Brown, Ernest Linwood	<i>Norway, Me.</i>
Burnham, John Fletcher	<i>Gloucester</i>
Burr, Walter Eugene	<i>Worthington</i>
Butterfield, Ross Hunt	<i>N. Troy, Vt.</i>
Cassidy, William Cleveland	<i>Webster</i>
Chadsey, Earl Erskine	<i>Boston</i>
Chessman, John Wesley	<i>Abington</i>
Clegg, William Joseph	<i>Providence, R. I.</i>
Cox, James Elliott	<i>Charlestown</i>
Coyne, Francis Joseph	<i>Marlboro</i>
Crerie, Fred Rich	<i>Worcester</i>
Dean, Frank Henry	<i>Worcester</i>
Delano, Frank Sparrow	<i>Worcester</i>
Denvir, William Edward, Jr.	<i>Somerville</i>
Derby, Frank Amos	<i>Keene, N. H.</i>
Devlin, James Edward	<i>Brighton</i>
Dickinson, George Herbert	<i>Meriden, Conn.</i>
Dingwell, Arthur Roy	<i>E. Boston</i>
Djinivis, Paul Boghos	<i>Roxbury</i>
Donlan, Andrew Francis	<i>Waltham</i>
Donovan, Timothy Joseph	<i>S. Lawrence</i>
Dorr, Russell Ellis	<i>Keen's Mills, Me.</i>
Doubleday, Clark Otto	<i>Springfield</i>
Dunlop, James Alexander	<i>Worcester</i>
Duprey, Harry Charles	<i>Cochituate</i>
Dyon, Armond Henry	<i>N. Attleboro</i>
Dyon, Oscar Omer	<i>N. Attleboro</i>
Edwards, Jonathan Phillips, Jr.	<i>Dennis Port</i>
Eldridge, Melville Leroy	<i>Wareham</i>
Ellison, George Washington, Jr.	<i>Boston</i>

Faulkner, Ralph Lindsay	<i>N. Grafton</i>
Flood, Charles Augustine	<i>Lynn</i>
Foster, Everett Choate	<i>Gloucester</i>
Fraser, John Callistus	<i>Dorchester</i>
Gilbert, John Royden	<i>Waltham</i>
Given, Carolus Roy	<i>Wollaston</i>
Grant, Frederick Edward	<i>E. Dedham</i>
Haffner, Louis Alfred	<i>Lawrence</i>
Hamilton, Arthur Stuart	<i>Needham</i>
Haven, Charles Philip	<i>Providence, R. I.</i>
Henderson, Francis Randolph	<i>Everett</i>
Henderson, Robert King	<i>Cordaville</i>
Hennebery, Philip Augustine	<i>Morell, P. E. I.</i>
Hoffman, Thomas	<i>Boston</i>
House, Clarence Ellsworth	<i>Dorchester</i>
Hoy, Frank	<i>Fall River</i>
Jellison, Frederick Green	<i>Rowley</i>
Keith, James Harold	<i>Bridgewater</i>
Keith, William Fownes	<i>Havelock, N. B.</i>
Kelly, Charles Patrick	<i>Cambridgeport</i>
King, Edward Francis, Jr.	<i>E. Dedham</i>
Kneeland, John James	<i>Worcester</i>
Lambert, Harry Keville	<i>Dorchester</i>
Lingley, Atlee Charles	<i>Grafton</i>
Lynch, Edward Mark	<i>Lawrence</i>
McDonnel, Michael Joseph	<i>Holyoke</i>
McHugh, Fred	<i>Woburn</i>
Meade, John James	<i>Charlestown</i>
Morse, Edwin John	<i>Roxbury</i>
Nesson, Paul	<i>Boston</i>
Norris, Harold Francis	<i>West Acton</i>
O'Connor, Timothy Leo	<i>Worcester</i>
Palmer, Raymond Chester	<i>Maynard</i>
Petzoldt, René Lucien	<i>Paramaribo, S. America</i>
Plaisted, Harold Charles	<i>Concord, N. H.</i>
Reardon, Raymond Paul	<i>Waltham</i>
Regan, Frank White	<i>Boston</i>
Richburg, Alfred Gordon	<i>Winchester</i>
Rosenthal, Max	<i>Boston</i>
Schlansky, Israel Myer	<i>Woonsocket, R. I.</i>
Shay, Norbert Branley	<i>S. Braintree</i>
Skinner, Roy Churchill, A.B. (Harvard)	<i>Boston</i>
Small, Wilbert Merrill	<i>Milbridge, Me.</i>
Smith, Ernest Joseph	<i>Ipswich</i>

Staples, Vincent Joseph	<i>Pittsfield</i>
Steadman, Frederick Weeks	<i>Brooklyn, N. Y.</i>
Sullivan, Anastasia Louise	<i>Cambridge</i>
Sullivan, Frank Denis	<i>Somersworth, N. H.</i>
Thomson, John Nathaniel	<i>Methuen</i>
Waller, Schuyler Richard	<i>Lowell</i>
Walsh, Jeffrey James	<i>Fall River</i>
Wells, Leon Jesse	<i>Fulton, N. Y.</i>
Wessler, Myron	<i>Springfield</i>
Yeo, Eugene Henry	<i>Gloversville, N. Y.</i>

First Year

Allen, Frederick Carroll	<i>New Bedford</i>
Austin, LeRoy Sherman	<i>Swampscott</i>
Barton, Peter Hogan	<i>New Glasgow, N. S.</i>
Beazley, Ernest Valentine	<i>Providence, R. I.</i>
Begley, Patrick Joseph	<i>Lowell</i>
Bonney, Albion Parris	<i>Quincy</i>
Branagan, George Henry	<i>Natick</i>
Brown, Guy Edward	<i>Somerville</i>
Brown, John Bernard	<i>Lot 14, P. E. I.</i>
Brown, Maurice Vivian, A.B. (Bates)	<i>Norway, Me.</i>
Bryant, Myron Eldridge	<i>Machias, Me.</i>
Burgess, Ralph Arthur	<i>Woburn</i>
Bursten, Bernerd Bertwell	<i>Revere</i>
Carlson, Torsten Axel	<i>Dorchester</i>
Carr, George Philip	<i>Grafton</i>
Casey, Thomas Frank	<i>Somerville</i>
Cassidy, James Owen	<i>Boston</i>
Clark, John Locke	<i>Valley Falls, R. .</i>
Connolly, Daniel Leo	<i>Boston</i>
Costello Peter William	<i>Pawtucket, R. I.</i>
Curtis, Harold Francis	<i>Quincy</i>
Danforth, George Arthur	<i>Manchester, N. H.</i>
Davis, Charles Frank, Jr.	<i>Littleton, N. H.</i>
deJong, Jacque	<i>S. Boston</i>
Denning, William Vincent	<i>S. Boston</i>
Derbyshire, Raymond Ashton	<i>Lawrence</i>
Dupuis, Hector Mederic	<i>Worcester</i>
Estabrook, Philip Dewitt	<i>Presque Isle, Me.</i>
Estes, William Augustus	<i>New Bedford</i>
Fanning, Michael Francis	<i>Gilbertville</i>
Finkelstein, Joseph	<i>Roxbury</i>
Fleming, Timothy Michael	<i>Lawrence</i>

Foley, Maurice Joseph	<i>Milford</i>
Foster, Robert Chesley	<i>Dorchester*</i>
Gallant, Amandus	<i>Cymbria, P. E. I.</i>
Gammon, Fred Battles	<i>Brockton</i>
Gately, Edward John	<i>Marlboro</i>
Gibbons, John Joseph	<i>New Bedford</i>
Golden, John Francis	<i>Natick</i>
Grant, Percy James	<i>Lynn</i>
Grant, Ulysses Simpson	<i>Everett</i>
Graumann, Ernest Gustave	<i>Jamaica Plain</i>
Griffin, Samuel Frederic	<i>Portsmouth, N. H.</i>
Griffin, William Henry, Jr.	<i>S. Boston</i>
Haines, J. Herman	<i>Lynn</i>
Hamilton, Samuel Worcester Fuller	<i>Newport, Vt.</i>
Hartigan, Thomas Joseph	<i>Providence, R. I.</i>
Hartnett, Patrick Sarsfield	<i>Dorchester</i>
Hayes, George Thomas	<i>Worcester</i>
Herlihy, David Joseph	<i>Fitchburg</i>
Holden, William Henry	<i>Malden</i>
Hurley, William Patrick	<i>S. Boston</i>
Hutchinson, Richard Donomore	<i>Lynn</i>
Jackson, Gordon Francis	<i>Dorchester</i>
James, Edward Chester	<i>Whitefield, N. H.</i>
Jenkins, Clarence Edmund	<i>E. Sullivan, N. H.</i>
Jones, Louis Franklin	<i>Somerville</i>
Kazanjian, Moses Nerses, A.B. (Central Turkey)	<i>Somerville</i>
Kaston, Louis	<i>Boston</i>
Kelley, John Joseph	<i>Worcester</i>
Kenswil, René	<i>Boston</i>
Kline, Louis Frederick	<i>Lawrence</i>
Knight, Joseph King, Jr., A.B. (Dartmouth) .	<i>Hyde Park</i>
Ladrigan, Daniel Vincent	<i>Roslindale</i>
Laffin, Clarence Byron	<i>Portland, Me.</i>
Leonard, John Henry	<i>Brockton</i>
Levenson, Meyer	<i>Dorchester</i>
Liberman, Abraham	<i>Malden</i>
Lockhart, Arthur Alexander	<i>Summerside, P. E. I.</i>
Logue, Owen Joseph	<i>Woburn</i>
Long, Daniel Simon Joseph	<i>Boston</i>
MacRury, Lauretta Catherine	<i>Manchester, N. H.</i>
MacSween, Frederick William	<i>Summerside, P. E. I.</i>
Manning, Charles Henry	<i>Rochester, N. H.</i>
Marran, Bernerd James	<i>Great Barrington</i>

Martel, Chester Henry	<i>Lowell</i>
McKenna, James Joseph	<i>New Bedford</i>
McMahon, Henry John	<i>Woburn</i>
McNamara, William Francis	<i>Clinton</i>
McNamee, Ada May	<i>Waverly</i>
McVey, Francis Frederick	<i>Boston</i>
Merrill, Ernest Samuel	<i>Wollaston</i>
Monson, Hollis Gilman	<i>Portland, Me.</i>
Moody, Chester	<i>Chelsea</i>
Nader, George	<i>Mahalla, Egypt</i>
Nash, Alfred Warren	<i>Haverhill</i>
Nies, Martin Edward, Jr.	<i>Swampscott</i>
Noonan, George Francis	<i>Roxbury</i>
O'Brien, Alfred Martin	<i>Newton</i>
O'Connor, Edward Michael	<i>Winchester</i>
Ogden, James Sherman	<i>Northampton</i>
Osgood, Rose Charlotte	<i>Dorchester</i>
Ozon, Wallace Walter	<i>Boston</i>
Parker Harrison Lindsay	<i>Winchester</i>
Perkins, Fred Lester	<i>Franklin, N. H.</i>
Pinsky, David	<i>Medway</i>
Power, Thomas Edward	<i>Westfield</i>
Price, Harris Wayland	<i>Tolland, Conn.</i>
Qualters, Martin Wilfred	<i>Ashuelot, N. H.</i>
Quinlan, Francis Mark	<i>Dorchester</i>
Reynolds, Leonard Patrick	<i>Manchester, N. H.</i>
Roberts, Jacob Frederick	<i>Whitinsville</i>
Rockett, Cecilia Marie	<i>Dorchester</i>
Ryan, Arthur Bliss	<i>Medfield</i>
Ryan, Edmund Clement	<i>Pawtucket, R. I.</i>
Ryan, James Edward	<i>Oakdale</i>
Sanborn, John Stevens	<i>Woburn</i>
Simonds, Frederick Artemas	<i>Wakefield</i>
Soulliere, Joseph Hector	<i>Worcester</i>
Spear, Tyler Whitmore	<i>Rockland, Me.</i>
Springall, George Allen	<i>Malden</i>
Stack, Thomas Paul	<i>Hyde Park</i>
Tannebring, William Charles	<i>Three Rivers</i>
Tierney, James Francis	<i>Dorchester</i>
Wagner, John Leonard	<i>Maynard</i>
Wiggins, Leo Chester	<i>Holbrook</i>
Wight, Clarence	<i>Belfast, Me.</i>
Yates, Thomas Henry	<i>Taunton</i>

Special Students

Bacon, Charles Harland	<i>Plainville</i>
Boland, William Henry	<i>Worcester</i>
Bryant, Warren Edward	<i>Worcester</i>
Cutler, Homer Joseph	<i>Somerville</i>
Darling, Harold Duncan	<i>Hyde Park</i>
Dexter, John Edward	<i>Abington</i>
Gallagher, Cormick Vincent	<i>Leominster</i>
Ginsberg, Samuel Lawrence	<i>Lynn</i>
Joy, Preston Wallace	<i>E. Weymouth</i>
Mason, Elmer Wilbur	<i>Brockton</i>
McAree, Dominick James	<i>Haverhill</i>
Priest, Leslie Duane	<i>Franconia, N. H.</i>
Sawyer, Ralph William	<i>Dorchester</i>
Saxton, Daniel Lawrence	<i>Brockton</i>
Spencer, Norman	<i>Chelsea</i>
Turner, John Francis	<i>Salem</i>
Walper, David	<i>Roxbury</i>

Post-Graduate

Bailey, J. W., D.D.S.	<i>Boston</i>
Baker, H. J., D.D.S.	<i>Dorchester</i>
Bellefleur, Joseph L., D.D.S.	<i>Salem</i>
Brown, A. R., D.D.S.	<i>Boston</i>
Brown, Charles Raymond, D.M.D.	<i>Mattituck, N. Y.</i>
Chapman, F. R., D.D.S.	<i>Boston</i>
DeWitt, W. P., D.D.S.	<i>Boston</i>
Flynn, William Benjamin, D.D.S.	<i>Fall River</i>
Hammur, G. W., D.D.S.	<i>Taunton</i>
Kelley, Agnes G., D.D.S.	<i>Brookline</i>
Miles, A. L., D.D.S.	<i>Cambridge</i>
Palmer, E. J., D.D.S.	<i>Boston</i>
Reiley, J. L., D.D.S.	<i>Boston</i>
Savage, George E.	<i>Worcester</i>
Sawyer, F. A. D.D.S.	<i>Cambridge</i>
Squires, F. A., D.D.S.	<i>Somerville</i>
Vroom, Ross, D.D.S.	<i>Boston</i>
Willard, S. P., D.D.S.	<i>Marlboro</i>

SUMMARY

Trustees	30
Directors of the Women	3

CORPS OF INSTRUCTION

Emeritus	5
President and Professors	48
Associate Professors	2
Assistant Professors	14
Demonstrator	1
Instructors	90
Lecturers	4
Assistants	34
Laboratory Assistants in the Medical and Dental Schools	19
Total engaged in work of instruction	— 217
Other Officers, not previously counted	16

STUDENTS

COLLEGE OF LETTERS:

Graduate	7
Senior	27
Junior	39
Sophomore	41
Freshman	61
Special	31—206

DEPARTMENT OF ENGINEERING:

Senior	25
Junior	53
Sophomore	61
Freshman	70
Special	1—210

CRANE THEOLOGICAL SCHOOL	13
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MEDICAL SCHOOL:

Fourth Year	77
Third Year	57
Second Year	109
First Year	139
Special	12
Post-Graduate	2—396

DENTAL SCHOOL:

Third Year	41
Second Year	91
First Year	118
Special	17
Post-Graduate	18—285

BROMFIELD-PEARSON SCHOOL	10
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Total registration of students	1120
Names appearing twice	5

Total number of students	1115
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PUBLICATIONS OF TUFTS COLLEGE

Annual Report of the President

General Catalogue

Report of the Treasurer

Catalogue of the Medical School

Catalogue of the Dental School

Catalogue of the Engineering Department

Announcement of Courses

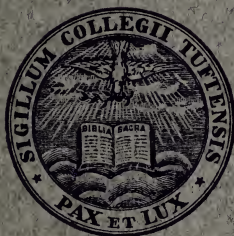
Register of Officers and Graduates

Pamphlet of Illustrations


WINDHAM
TUFTS

T U F T S C O L L E G E C A T A L O G U E

1909-1910



Published monthly, from December to June inclusive, at Tufts College, Mass., by the Trustees of Tufts College. Copies may be had by addressing the Secretary, PHILIP M. HAYDEN, Tufts College, Mass.

 The post-office address of the School of Liberal Arts, the Crane Theological School, the Engineering School, and the Bromfield-Pearson School, is TUFTS COLLEGE, MASS.

The address of the Medical and Dental Schools is 416-430 HUNTINGTON AVENUE, BOSTON, MASS.

400 600
by the Medical
cated at 416 - 43
ve., Boston.

Medford
Somerville

ST.

WINTHROP

ST.

CURTIS

oston 4 miles



by the Medical
ated at 416-430
re., Boston.

A MAP OF THE GROUNDS OF TUFTS COLLEGE

Scale 1/4 mile
200 400 600 Feet
The building occupied by the Medical and
Dental Schools is located at 416-430
Huntington Ave., Boston.

- College Buildings**
- 1 WEST HALL (dormitory)
 - 2 MIDDLE HALL
 - 3 EAST HALL (dormitory)
 - 4 CURTIS HALL (post-office, class rooms, and dormitory)
 - 5 CHEMICAL LABORATORY
 - 6 DEAN HALL (dormitory)
 - 7 GODDARD GYMNASIUM
 - 8 BARNUM MUSEUM (public museum, biological laboratory, and class rooms)
 - 9 BALLOU HALL (main offices and class rooms)
 - 10 GODDARD CHAPEL
 - 11 EATON MEMORIAL LIBRARY
 - 12 PAIGE HALL (Theological School dormitory)
 - 13 MINER HALL (Theological School class rooms and class rooms)
 - 14 ROBINSON HALL (Engineering laboratories and class rooms)
 - 15 POWER STATION AND FORGE SHOP
 - 16 BROMFIELD-PEARSON BUILDING (Engineering shops and class rooms)
 - 17 METCALF HALL (dormitory for women)
 - 18 START HOUSE (dormitory for women)
 - 19 WOMEN'S GYMNASIUM

Residences

- BOSTON AVENUE**
- 391 College Employees
- PROFESSORS ROW**
- 8 President Hamilton
 - 14 Prof. Anthony
 - 20 " Lewis
 - 38 " Durkee
 - 48 Prof. Cushman
 - 80 Zeta Psi House
 - 92 Prof. Fay
 - 98 " Bray
 - 106 " Tousey
 - 114 " Knight
 - 124 " Hooper
 - 128 " Kingsley
 - 134 " Dolbear

- SAWYER AVENUE**
- 13 Delta Upsilon House
 - 14 Prof. Wade
 - 29 Prof. Ransom
 - 37 Prof. H. G. Chase
 - 45 Prof. Earle; Prof. Tucker

- TALBOT AVENUE**
- 101 Mr. Munro
 - 97 Mr. Morley
 - 65 Prof. Wren

- DEARBORN ROAD**
- 16 Prof. Lambert
- CURTIS STREET**
- 80 Prof. Maulsby
 - 94 Alpha Tau Omega House
 - 114 Prof. Harmon
 - 120 Mr. Bruce

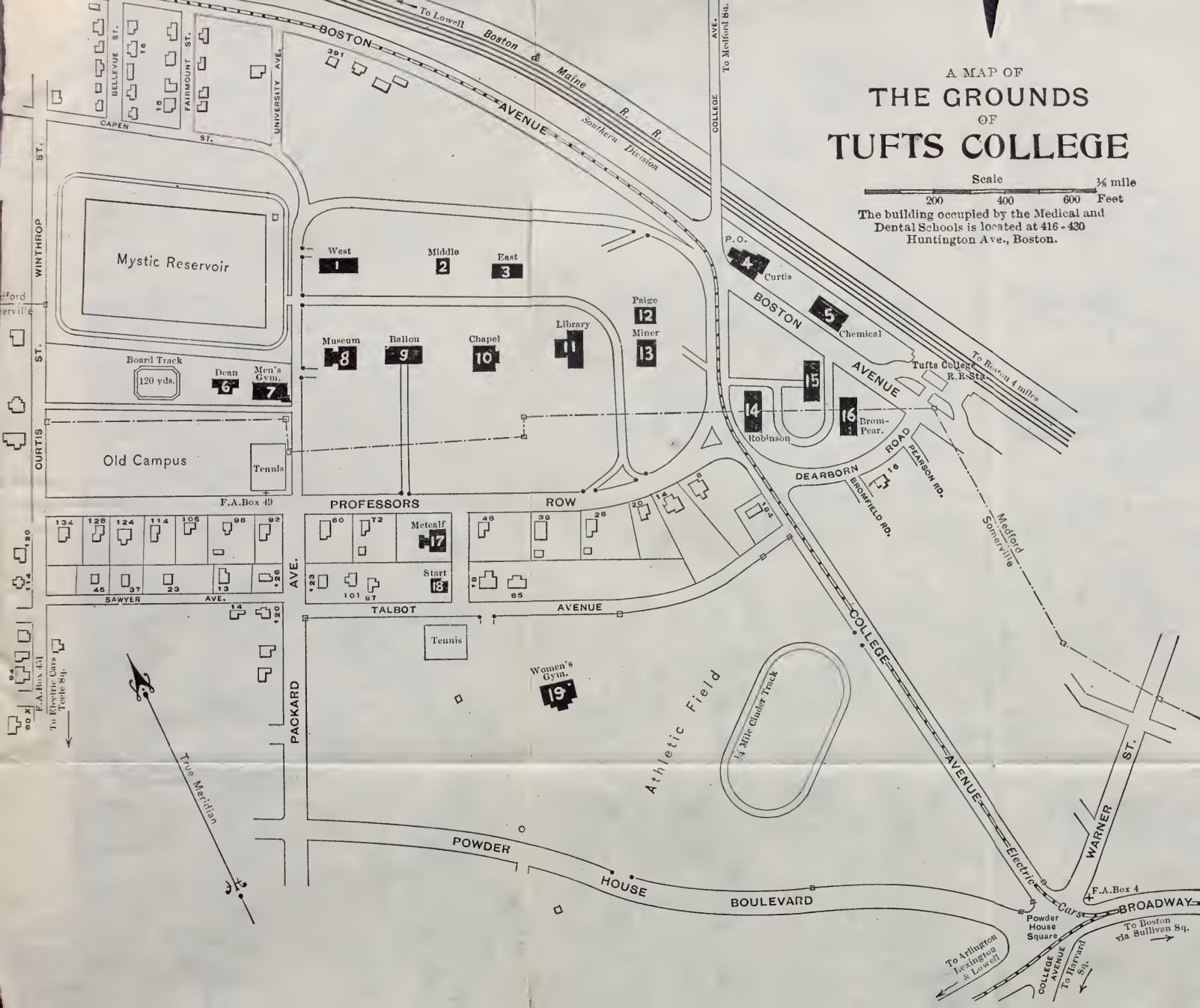
- BELLEVUE STREET**
- 16 Sigma Tau Alpha House
- FAIRMOUNT STREET**
- 15 The Commons Club

- PACKARD AVENUE**
- 120 Prof. Leonard
 - 123 Theta Delta Chi House
 - 126 Prof. Denison

- LATIN WAY**
- 18 Delta Tau Delta House
- COLLEGE AVENUE**
- 184 Prof. Bolles

Residences of persons not connected with the College are not indicated.

Post-office address: Tufts College, Mass. Railroad Station: Tufts College, on Southern Division of Boston and Maine Railroad. Electric cars from Boston via Sullivan Square. Freight Station: North Somerville, Mass.





PAIGE

CHAPEL
CURTIS

B. L. Stebbins



TUFTS COLLEGE R. R. STA.

BROMFIELD-CHURCH

ROBINSON
POWER HOUSE

CHEM. LAB.

MINER

PAIG

CHAPPEL
CURTIS

BALLOU

EAST

MIDDLE

WEST

Photo. by N. L. Stebbins

TUFTS COLLEGE CATALOGUE

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New Series, Vol. X, No. 1

CATALOGUE
OF
TUFTS COLLEGE



1909—1910

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Entered at the Post-Office at Tufts College, Mass.,
as Second-Class Matter

THE TUFTS COLLEGE PRESS

A. A. W.

Calendar — 1910

JANUARY								MAY								SEPTEMBER							
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9	10	11	12	13	14	15		15	16	17	18	19	20	21		11	12	13	14	15	16	17	
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																28	29	30	31				

Tufts College, about four miles from Boston, is accessible by rail and by electric cars. The railway station, "Tufts College," is on the Southern Division of the Boston and Maine Railroad; but goods sent by freight go to North Somerville, Mass., and should be so addressed. The post-office address is "Tufts College, Mass."

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Calendar

1909

- DEC. 22. Christmas recess begins, in the Department of Arts and Sciences, Wednesday, 12.45 P.M.
DEC. 27. Christmas recess begins, Medical and Dental Schools, 1 P.M.

1910

- JAN. 3. Christmas recess ends in the Department of Arts and Sciences Monday, 2 P.M.; in the Medical and Dental Schools 9 A.M.
JAN. 29, 31, FEB. 1, 2. Mid-year examinations in the Department of Arts and Sciences
FEB. 5. End of the first half-year in the Department of Arts and Sciences, Saturday
FEB. 7. Second half-year in the Department of Arts and Sciences begins, Monday. Registration
FEB. 8. Regular exercises begin in the Department of Arts and Sciences, Tuesday, 8.30 A.M.
FEB. 22. Washington's Birthday, Tuesday. College exercises are suspended.
APR. 3-9. Spring recess in the Medical and Dental Schools
APR. 13. Spring recess in the Department of Arts and Sciences begins, Wednesday evening
APR. 20. Spring recess ends, Wednesday evening
MAY 13. Goddard Prize Reading, Friday, 8 P.M.
MAY 14. Senior Theses in Engineering School must be filed at the office of the Dean before 5 P.M.
MAY 25 to 28. Senior examinations in Engineering School
MAY 30. Memorial Day, Monday. College exercises are suspended
JUNE 6, 7, 8, 9. Final examinations in the Department of Arts and Sciences
JUNE 6. Entrance Examinations at the Medical and Dental Schools, Monday, 10 A.M.
JUNE 10. Class Day, Friday
JUNE 12. Baccalaureate Sermon, Sunday, 3.30 P.M.
JUNE 15. Fifty-fourth Annual Commencement, Wednesday

First Examinations for Admission to the Department of Arts and Sciences

- JUNE 16. Algebra, 9 to 10.30 A.M.; English, 10.30 A.M. to 12.30 P.M.; Plane Geometry, 2 to 4 P.M.; Physics, 4 to 5 P.M.; Drawing, 4 to 6 P.M.
JUNE 17. Elementary and Advanced Latin, 9 to 12 A.M.; Solid Geometry, 9 to 11 A.M.; Natural History (two subjects), 11 A.M. to 1 P.M.; History, 2 to 4 P.M.; Chemistry, 4 to 5 P.M.

- JUNE 18. Elementary and Advanced French, 9 to 11 A.M.; Elementary and Advanced German, 11 A.M. to 12.30 P.M.; Elementary and Advanced Greek, Advanced Algebra and Trigonometry, 2 to 5 P.M.

Summer Vacation, Fourteen Weeks

Second Examination for Admission to the Department of Arts and Sciences

- SEPT. 17. Elementary and Advanced French, 9 to 11 A.M.; Elementary and Advanced German, 11 A.M. to 12.30 P.M.; Elementary and Advanced Greek, Advanced Algebra and Trigonometry, 2 to 5 P.M.
- SEPT. 19. Algebra, 9 to 10.30 A.M.; English, 10.30 A.M. to 12.30 P.M. Plane Geometry, 2 to 4 P.M.; Physics, 4 to 5 P.M.; Drawing, 4 to 6 P.M.
- SEPT. 20. Elementary and Advanced Latin, 9 to 12 A.M.; Solid Geometry, 9 to 11 A.M.; Natural History (two subjects), 11 A.M. to 1 P.M.; History, 2 to 4 P.M.; Chemistry, 4 to 5 P.M.
- SEPT. 12. Fall examinations for the removal of conditions, in the Medical and Dental Schools, begin, 10 A.M.
- SEPT. 19. Entrance examinations at the Medical and Dental Schools, Monday, 10 A.M.
-
- SEPT. 22. College year begins, Thursday morning
Registration of all students in the Department of Arts and Sciences
- SEPT. 23. All classes meet for announced periods, Friday
- SEPT. 24. Regular College exercises begin, Saturday
- SEPT. 25. Dental Infirmary opens, 9 A.M.
- SEPT. 28. Lectures begin in Medical and Dental Schools, Wednesday, 3 P.M.
- OCT. 2. Russell Lecture, Sunday, 3.30 P.M.
- OCT. 8. Registration closes in Medical and Dental Schools, 6 P.M.
- NOV. 16. Announcement of Academic Honors, 12 M., Wednesday
- NOV. 23. Thanksgiving recess begins in all Departments, Wednesday 12.45 P.M.
- NOV. 27. Thanksgiving recess ends in all Departments, Sunday evening
- DEC. 21. Christmas recess begins, in the Department of Arts and Sciences, Wednesday, 12.45 P.M.
- DEC. 24. Christmas recess begins, Medical and Dental Schools, 1 P.M.
- 1911
- JAN. 2. Christmas recess ends in the Department of Arts and Sciences Monday, 2 P.M.; in the Medical and Dental Schools 9 A.M.
- JAN. 28, 30, 31, FEB. 1. Mid-year examinations in the Department of Arts and Sciences
- FEB. 4. End of the first half-year in the Department of Arts and Sciences, Saturday
- FEB. 6. Second half-year in the Department of Arts and Sciences begins, Monday. Registration

Historical Sketch

Tufts College was established under a charter granted on the twenty-first day of April, 1852, by the General Court of Massachusetts. Under this charter, as later amended, the College is empowered "to confer such degrees as are usually conferred by colleges in New England." Its organization now comprises the School of Liberal Arts, the Engineering School, the Graduate School, the Crane Theological School, the Medical School, and the Dental School. The School of Liberal Arts prepares for the degrees of Bachelor of Arts and Bachelor of Science. Work in the Engineering School leads to the degree of Bachelor of Science in Engineering. The Graduate School offers the degrees of Master of Arts and Master of Science. The course in the Theological School leads to the degree of Bachelor of Sacred Theology, that in the Medical School to the degree of Doctor of Medicine, and that in the Dental School to the degree of Doctor of Dental Medicine.

The Foundation.—The movement resulting in the founding of the College was set on foot in 1847, through the efforts of the Rev. Thomas J. Sawyer, of New York, the Rev. Hosea Ballou, 2d, of Medford, and the Rev. Thomas Whittemore, of Cambridgeport. After much consideration, the work of raising a fund of one hundred thousand dollars for a foundation was undertaken, under the direction of the Rev. Otis A. Skinner, of Boston. About sixty thousand dollars was obtained in money. Sylvanus Packard gave his bond for twenty thousand dollars additional, and Charles Tufts gave twenty acres of land on Walnut Hill, embracing the present site of the College. Mr. Tufts announced his intention of increasing his gift of land to more than one hundred acres, and thus became the largest benefactor of the young institution, which accordingly received his name. Mr. Packard was a Boston merchant, who from the beginning made the College a peculiar care, and bequeathed to

it his entire fortune. Among other benefactors who may be numbered among the founders of the College were Oliver Dean, who gave it ninety thousand dollars, and Thomas A. Goddard, whose gifts, though unobtrusive, were constant. Mrs. Goddard continued the generosity of her husband, and at her death made a substantial bequest to the College. Dr. William J. Walker also made gifts and bequests amounting to nearly three hundred thousand dollars.

While the College owed its beginning to the effort and the support of members of the Universalist denomination, it was provided by the Legislature in the charter that

“No instructor in said college shall ever be required by the Trustees to profess any particular religious opinions as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said college, on account of the religious opinions he may entertain.”

This provision has always been interpreted by the Trustees and Faculty in its broadest sense. The non-sectarian character of the work of the College is amply shown by the membership of its Faculty and student body. The truth, and not the maintenance of any religious or political doctrine, has been the aim of its research and its instruction.

The Department of Arts and Sciences.—The first Faculty meeting was held October 9, 1854, when there were in College students forming the Sophomore and the Freshman class. The only building at that time was the main College Building, now known as Ballou Hall. The next building to be erected was a small brick dormitory, now Middle Hall. The large dormitory known as East Hall was the next addition to the group, and in 1872 West Hall was opened to students. It was ten years before building operations were renewed by the College. The original Faculty numbered five. The first class, of three members, was graduated in 1857.

At the outset, provision was made for a course of study leading to the degree of Bachelor of Arts. The only feature of its work peculiar to Tufts College in these years of its beginning

was the attention given to the study of history. The first President of the College, the Rev. Hosea Ballou, 2d, D.D., was likewise Professor of History and of Intellectual Philosophy, and gave instruction in history remarkable alike for its quantity and quality, at a time when the study was hardly recognized in American colleges.

Dr. Ballou was succeeded in the presidency by the Rev. Alonzo Ames Miner, D.D., LL.D., who was inaugurated in 1862, and continued in office until 1875, resigning in February of that year. Dr. Miner's incumbency was marked by large financial additions to the College, and by the further growth of a broad and scholarly spirit.

In March, 1875, the Rev. Elmer Hewitt Capen, D.D., was elected to the presidency of the College, vacated by the resignation of President Miner, and he was inaugurated on the second day of June. Dr. Capen's administration, which was characterized by the expansion of the College to university proportions, and was marked by the material and intellectual advance of all departments, was terminated by his death, March 22, 1905.

Rev. F. W. Hamilton, D.D., LL.D., was appointed acting president in 1905, and was inaugurated as president, June 19, 1906.

The Engineering courses were begun in 1869 with a department of Civil Engineering. The great development of electrical science was promptly recognized, and a department of Electrical Engineering was opened to students in 1882, a professorship in the subject being established in 1890. This side of the College work had rapid development: in 1894 the field was broadened by the addition of a course in Mechanical Engineering, and in 1898 by one in Chemical Engineering. In these courses effort has always been made to give thorough practical training. The will of the late Henry B. Pearson, founding the Bromfield-Pearson School, and putting it into the hands of the Trustees of Tufts College to administer, provided a thoroughly-equipped building for technical instruction, of great value in drawing, pattern-making, and in machine and

forge work. The Bromfield-Pearson building was completed in the fall of 1894. Robinson Hall, completed in 1900, gives to the technical courses a modern building with every facility for their work. It was given in memory of the late Charles Robinson, LL. D., sometime President of the Trustees, by his heirs.

In 1881 the late Phineas T. Barnum gave fifty-five thousand dollars for the establishment of the Barnum Museum of Natural History, and by his last will he bequeathed forty thousand dollars more. The main Museum building was completed in 1884. The west wing, containing the new biological laboratories, was erected in 1894. The years 1882 and 1883 saw the completion of Goddard Chapel, given by Mrs. Mary T. Goddard as a memorial of her husband, the first treasurer of the College. Goddard Gymnasium, a gift from the same source, was also completed in 1883. The gymnasium has been enlarged and transformed into what is practically a new building. Dean Hall was erected in 1887 from funds bequeathed by the late Oliver Dean. In the College year 1894-95 two new buildings were opened, in addition to the west wing of the Barnum Museum. These were the Chemical building and Curtis Hall, containing students' rooms, class rooms, and the post-office.

The gift of one hundred thousand dollars from Mr. Andrew Carnegie secured the erection of an adequate library building, called the Eaton Memorial Library, which was begun in 1905, and put into active service in 1908.

The development of the College in its internal life has been the notable fact of recent years. In 1866 the degree of Bachelor of Philosophy was offered to students who should pursue a prescribed course of two years, the object being to provide for those who had been prepared only in English subjects. This course was maintained until 1875, when it was changed to a course of four years. The requirements for admission were then made the same as for the regular course, except that Greek as a condition of entrance was omitted, and an amount of work in French or German, considerably less than its equivalent, was

substituted. The degree of Bachelor of Philosophy has more and more fallen into disuse, in favor of Bachelor of Arts. In 1891 a new course of study, leading to the degree of Bachelor of Arts, was offered, with an entrance requirement believed to be fully the equivalent of the Greek, in two modern languages. This was one important step taken by the College toward the broadening of its opportunities, but it soon proved to be insufficient. There had been a steady growth for many years in the amount of work done, and in the number of departments of learning represented. Two new departments had been instituted in 1892, in response to the tendencies of educational development,—those of Biology and History. Departments of Music and Philosophy have since been added, the work in Political Science has been broadened, and provision made for the study of Public Law. In the fall of 1893 it seemed possible to take another step and to put into operation the present plan of work, which is believed to be an approach to a rational co-ordination and connection of the college and university systems. The principle which governed this adjustment of the College curriculum has been applied to the entrance requirements.

There were opened in 1895 courses of four years each in Biology, Chemistry, General Science, and Medical Preparatory work, leading to the degree of Bachelor of Science, and accessible to graduates of all good high schools. The course in Biology was withdrawn in 1905. Bachelors of Science may, if they desire, go on to the attainment of the degree of Bachelor of Arts.

In response to a pressing demand the college was, in the summer of 1892, opened to women on the same terms as to men. In the fall of 1894 there was provided, for the accommodation of women students, Metcalf Hall, the gift of Albert Metcalf, of Newton. The Start House also offers home-like rooms for women students.

The Professional Schools.—The will of Mr. Packard re-

quired that a professor of Christian Theology should be maintained from the income of funds bequeathed by him. The Rev. Thomas J. Sawyer, D.D., was elected Packard Professor in 1869. This was the beginning of the Theological School. In 1882 the school had developed so that its Faculty received a definite organization, and Dr. Sawyer became the first Dean, retaining the office until his retirement as Packard Professor Emeritus in 1892. He was succeeded by the present Dean, Rev. Dr. Charles H. Leonard. From the erection of West Hall until the completion of the separate buildings of the school, the western side of West Hall was occupied by the Divinity School. In 1892, by the gift of ex-President Miner, the school was provided with Miner Hall, containing the library, class rooms, chapel, and reception room; and at the same time, largely through the efforts of the Dean, the money was obtained to build Paige Hall, a dormitory for students of the Theological School.

In 1903 a five-year course was offered to students of divinity, combining subjects required for a proper professional equipment with studies that look toward liberal culture. This course is now arranged to cover six years. At its successful completion the degrees A.B. and B.D. are both awarded. There is also a four-year course, leading to B. D.

In 1906 the name of the Divinity School was changed to the Crane Theological School, in recognition of a gift of one hundred thousand dollars from the estate of the late Thomas Crane of New York, whose son, Albert Crane, '63, thus carried out the expressed purpose of his father.

In 1893 Tufts College met what seemed to be a need of the community by opening the Tufts Medical School. The growth of the school in efficiency and numbers justified its institution. The course is four years in length, and, as in other departments of the College, women stand upon the same terms as men.

The Medical School found its complement in the Tufts Dental School, organized in 1899 by the absorption of the Boston Dental College, which was incorporated in 1868, and has a

numerous body of alumni. The equipment, funds, and good will of this school passed to Tufts College.

Administration.—The control of the College is vested by the charter in a self-perpetuating body of Trustees, not to exceed thirty in number. As the College has matured the number of its alumni upon the Board of Trustees has steadily increased. To give the Alumni as a whole a direct representation in the administration, a Board of Overseers was instituted, which continued from 1899 till 1907. At this time an amendment to the college charter was passed by the Massachusetts legislature, permitting the election of a certain proportion of Trustees from and by the alumni themselves.

THE COLLEGE CHARTER

SECTION 1. B. B. Mussey, Timothy Cotting, Richard Frothingham, Jr., their associates and successors, are hereby constituted a body corporate by the name of the Trustees of Tufts College, in Medford, and they and their successors, and such as shall be duly elected members of said corporation, shall be and remain a body corporate by that name forever. And for the orderly conducting of the business of said corporation, the said Trustees shall have power and authority, from time to time, as occasion may require, to elect a President, Vice-President, Secretary and Treasurer, and such other officers of said corporation as may be found necessary, and to declare the duties and tenures of their respective offices; and also to remove any Trustee from the same corporation, when in their judgment he shall be rendered incapable, by age or otherwise, of discharging the duties of his office, or shall neglect or refuse to perform the same; and also, from time to time, to elect new members of the said corporation; provided, nevertheless, that the number of members shall never be greater than thirty.

SEC. 2. The said corporation shall have full power and authority to determine at what times and places their meetings shall be holden, and the manner of notifying the Trustees to convene at such meetings, and also, from time to time, to elect a President of said College, and such professors, tutors, instructors, and other officers of the said College as they shall judge most for the interest thereof, and to determine the duties, salaries, emoluments, responsibilities, and tenures of their several offices. And the said corporation are further empowered to purchase or erect, and keep in repair, such houses and other buildings as they shall judge necessary for the said College; and also to make and ordain, as occasion may require, reasonable rules, orders, and by-laws, not repugnant to the Constitution

and Laws of this Commonwealth, with reasonable penalties, for the good government of the said College, and for the regulation of their own body; and also to determine and regulate the course of instruction in said College, and to confer such degrees as are usually conferred by colleges in New England; provided, nevertheless, that no corporate business shall be transacted at any meeting unless one-third, at least, of the Trustees are present.

SEC. 3. The said corporation may have a common seal, which they may alter or renew at their pleasure, and all deeds sealed with the seal of said corporation, and signed by their order, shall, when made in their corporate name, be considered in law as the deeds of said corporation; and said corporation may sue and be sued in all actions, real, personal, or mixed; and may prosecute the same to final judgment and execution by the name of the Trustees of Tufts College; and said corporation shall be capable of taking and holding in fee simple, or any less estate, by gift, grant, bequest, devise, or otherwise, any lands, tenements, or other estate, real or personal, provided, that the clear annual income of the same shall not exceed two hundred thousand dollars.*

SEC. 4. The clear rents and profits of all the estate, real and personal, of which the said corporation shall be seized and possessed, shall be appropriated to the endowment of said College in such manner as shall most effectually promote virtue and piety, and learning in such of the languages, and of the liberal and useful arts and sciences, as shall be recommended from time to time by the said corporation, they conforming to the will of any donor or donors in the application of any estate which may be given, devised, or bequeathed, for any particular object connected with the College.

SEC. 5. No instructor in said College shall ever be required by the Trustees to profess any particular religious opinions as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said College on account of the religious opinions he may entertain.

SEC. 6. The Legislature of this Commonwealth may grant any further powers to, or alter, limit, annul, or restrain any of the powers vested by this act in the said corporation, as shall be found necessary to promote the best interests of the said College, and more especially may appoint and establish overseers or visitors of the said College, with all necessary powers for the better aid, preservation, and government thereof.

SEC. 7. The granting of this Charter shall never be considered as any pledge on the part of the Government that pecuniary aid shall hereafter be granted to the College.

* The limitation as to income has been removed by statute.

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ARTS AND SCIENCES

REQUIREMENTS FOR ADMISSION

TO THE

SCHOOL OF LIBERAL ARTS
ENGINEERING SCHOOL
CRANE THEOLOGICAL SCHOOL

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* The Faculty of Arts and Sciences consists of the Faculties of the School of Liberal Arts, the Engineering School, the Graduate School, and the Crane Theological School, constituting one body for the discharge of certain administrative functions.

Requirements for Admission

Candidates for admission to the Department of Arts and Sciences must have received adequate preparation in certain subjects falling in two groups, known respectively as the Primary and the Secondary Group.

The Primary Group

Elementary English ;

*An Elementary Foreign Language, ancient or modern ;

Elementary History ;

Elementary Algebra ;

Plane Geometry.

Candidates for admission must show adequate preparation in all the subjects of the Primary Group, and in a certain part of the subjects of the Secondary Group, depending upon the degree in view. No subject offered in the Primary Group can be counted in the Secondary Group.

The Secondary Group

ELEMENTARY

Greek, 4

Latin, 6

French, 4

German, 4

Chemistry, 1

Physics, 1

Botany, 1 or 2

Zoology, 1 or 2

Geology, 1 or 2

Physiology, 1 or 2

Mechanical Drawing, 1

Freehand Drawing, 1

Shop Work, 1

Economics, 1

Musical Appreciation, 1

Music (Harmony), 1 or 2

*Candidates for the degree of Bachelor of Science in General Science, in Chemistry, or in the Medical Preparatory Course, must present Elementary German.

Engineering students will find it an advantage to present both French and German. Preparatory work in Modern Languages above the elementary requirements may be counted toward the degree of B.S. in Engineering (see pages 41 to 45). But college credit for work done in the secondary school is given only on examination or after the student has satisfactorily continued the subject in college.

ADVANCED*

English, 2	Trigonometry, 1
Greek, 2	Solid Geometry, 1
Latin, 2	Chemistry, 1
French, 2	Physics, 1
German, 2	Counterpoint, 1
History, 2	Pianoforte, Voice, or Violin, 1
Algebra, 1	

Candidates for the degree of Bachelor of Arts or Bachelor of Divinity must submit, in addition to the five subjects of the Primary Group, a selection of subjects from the Secondary Group aggregating *fourteen* units, according to the valuation indicated above. Candidates for any one of the courses in Science, including those in Engineering, must submit from the Secondary Group subjects aggregating *six* units.

The following conditions are to be observed:—

1. The fourteen units for the course leading to A.B., or that leading to B.D., must include those representing one advanced ancient language.
2. No subject classified as “advanced” shall be offered without the corresponding elementary subject.†
3. The six units for any course in engineering must include that representing solid geometry.

Detailed information concerning the amount and character of the work demanded in preparation will be found on the following pages.

Detailed Statement of Requirements

Elementary English.

Preparation in English has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the

*The credit for advanced subjects, as here given, is in addition to the credit for the corresponding elementary subjects.

†Thus Advanced Latin calls for preparation as well in Elementary Latin, and includes the credit for both,—8 points.

secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, paragraphs, and the different kinds of whole composition, including letter-writing, should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise narration, description, and easy exposition and argument based upon simple outlines. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

The second object is sought by means of two lists of books, headed respectively *reading* and *study*, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages, both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads, and with their place in literary history.

GROUP A

READING.—The aim of this course is to foster in the student the habit of intelligent reading, and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

*For Students Entering in 1910 and 1911**

Shakespeare's *The Merchant of Venice* and *Julius Cæsar*;

* See footnote at bottom of next page.

the Sir Roger de Coverley Papers in the Spectator; Franklin's Autobiography; Scott's The Lady of the Lake and Ivanhoe; Hawthorne's The House of the Seven Gables; Macaulay's Lays of Ancient Rome; Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Dickens's A Tale of Two Cities.

*For Students Entering in 1912**

Shakespeare's As You Like It and Julius Cæsar; Franklin's Autobiography; Goldsmith's The Deserted Village; Dickens's A Tale of Two Cities; George Eliot's Silas Marner; Irving's Sketch Book; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Macaulay's Lays of Ancient Rome.

For Students Entering in 1913, 1914, and 1915

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from which at least ten units are to be selected, two from each group. Each unit is set off by semicolons.

I. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; Virgil's Æneid. The Odyssey, Iliad, and Æneid should be read in English translations of recognized literary excellence.

For any unit of this group a unit from any other group may be substituted.

II. Shakespeare's Merchant of Venice; Midsummer Night's

* The books for the classes entering in 1909, 1910, 1911, and 1912, are selected from the lists adopted by the Conference on Uniform Entrance Requirements in English, at meetings held in Newark, N. J., February 22, 1905, and February 22, 1908. Candidates may make other selections from that list, provided they give notice of their intention to present these books on or before the first day of February preceding the examination. The list will be furnished to secondary schools upon application to the Secretary of Tufts College.

Dream; As You Like It; Twelfth Night; Henry the Fifth; Julius Cæsar.

III. Defoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; either Scott's Ivanhoe, or Scott's Quentin Durward; Hawthorne's House of the Seven Gables; either Dickens's David Copperfield, or Dickens's Tale of Two Cities; Thackeray's Henry Esmond; Mrs. Gaskell's Cranford; George Eliot's Silas Marner; Stevenson's Treasure Island.

IV. Bunyan's Pilgrim's Progress, Part I; The Sir Roger de Coverley Papers in the Spectator; Franklin's Autobiography (condensed); Irving's Sketch Book; Macaulay's Essays on Lord Clive and Warren Hastings; Thackeray's English Humourists; Selections from Lincoln, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, and Letter to Horace Greeley, along with a brief memoir or estimate; Parkman's Oregon Trail; either Thoreau's Walden, or Huxley's Autobiography and selections from Lay Sermons, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; Stevenson's Inland Voyage and Travels with a Donkey.

V. Palgrave's Golden Treasury (First Series), Books II and III, with especial attention to Dryden, Collins, Gray, Cowper, and Burns; Gray's Elegy in a Country Churchyard, and Goldsmith's Deserted Village; Coleridge's Ancient Mariner, and Lowell's Vision of Sir Launfal; Scott's Lady of the Lake; Byron's Childe Harold, Canto IV, and Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV, with especial attention to Wordsworth, Keats, and Shelley; Poe's Raven, Longfellow's Courtship of Miles Standish, and Whittier's Snow Bound; Macaulay's Lays of Ancient Rome, and Arnold's Sohrab and Rustum; Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa — Down in the City.

GROUP B*

STUDY.—This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. For this close reading, a play, a group of poems, an oration, and an essay, are provided, as follows:

For Students Entering in 1909, 1910, and 1911

Shakespeare's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; either Burke's Speech on Conciliation with America, or both Washington's Farewell Address and Webster's First Bunker Hill Oration; either Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

For Students Entering in 1912

Shakespeare's Macbeth; Milton's Comus, L'Allegro, and Il Penseroso, or Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; either Burke's Speech on Conciliation with America, or both Washington's Farewell Address and Webster's First Bunker Hill Oration; either Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

For Students Entering in 1913, 1914, 1915

Shakespeare's Macbeth; Milton's L'Allegro, Il Penseroso, and Comus; either Burke's Speech on Conciliation with America, or both Washington's Farewell Address and Webster's First Bunker Hill Oration; either Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

Examination.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

* The important changes that go into effect with 1913 consist of a greater emphasis upon formal grammar, rhetorical structure, and the study of details in the books under Group B. Meanwhile, schools desiring to be acquainted with the precise requirements for 1910, 1911, and 1912, are advised to send for the catalogue of 1908-09. The older form of statement is omitted from this catalogue to save space. But a student adequately prepared according to the requirements here printed will have no difficulty in meeting the earlier requirements.

The examination will be divided into two parts, one of which may be taken as a preliminary, and the other as a final.

The first part of the examination will be upon ten units chosen, in accordance with the plan described earlier, from the lists headed *reading*; and it may include also questions upon grammar and the simpler principles of rhetoric, and a short composition upon some topic drawn from the student's general knowledge or experience. On the books prescribed for reading, the form of the examination will usually be the writing of short paragraphs on several topics which the candidate may choose out of a considerable number. These topics will involve such knowledge and appreciation of plot, character-development, and other qualities of style and treatment as may be fairly expected of boys and girls. In grammar and rhetoric, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors.

The second part of the examination will include composition and those books comprised in the list headed *study*. The test in composition will consist of one or more essays, developing a theme through several paragraphs, the subjects to be drawn from the books prescribed for *study*, from the candidate's other studies, and from his personal knowledge and experiences quite apart from reading. For this purpose the examiner will provide several subjects, perhaps five or six, from which the candidate may make his own selections. The test on the books prescribed for study will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

Advanced English.*Two units.*

One of the following: —

1. A detailed study of a single period of English literature, and of not fewer than three authors belonging to it.
2. Old English (Anglo-Saxon): chiefly simple prose and grammar.
3. Chaucer: the Prologue, the Knightes Tale, and the Nonne Preestes Tale, including vocabulary, inflection, and prosody.

Adequate preparation for any one of the topics under Advanced English requires the equivalent of at least three school periods a week for one year. Credit in Advanced English will be given only on examination.

Elementary German.*Four units.*

It is expected that the candidate will have studied the subject in a systematic course of at least five periods a week for two years, and that special care will have been given to pronunciation and to translating into clear, idiomatic English.

The examination will consist of two parts: —

(a) The translation into German of easy English sentences, to test the candidate's knowledge of the following subjects: the declension of articles, adjectives, pronouns, and nouns; the conjugation of verbs; the prepositions and cases which they govern; the simpler uses of modal auxiliaries; the elementary rules of syntax and word order.

(b) The translation at sight of ordinary German prose or verse. It is believed that the requisite facility may be acquired by the reading of from two to three hundred pages of standard prose and poetry, with preference given to the narrative style in contemporary authors.

[The following list is made up from works suitable for preparatory reading in Elementary German: Wildenbruch, *Das edle Blut*; Heyse, *Niels mit der offenen Hand*; Arnold, *Fritz auf Ferien*; Gerstäcker, *Irrfahrten*; Storm, *In St. Jürgen*; Riehl, *Der Fluch der Schönheit*; Meyer, *Das Amulett*; Schiller, *Wilhelm Tell*; selections from Hatfield's *German Lyrics and Ballads*, or from Klenze's *Deutsche Gedichte*.]

Advanced German.*Two units.*

It is expected that the candidate will have added to the work

done in preparation for Elementary German a further course equivalent to five hours a week for a year. He should also acquire the ability to follow a recitation conducted in German, and to answer in that language questions asked by the instructor.

The examination will consist of two parts : —

(a) The translation into German of an easy passage of English prose. This will presuppose a thorough knowledge of the essentials of German syntax, and especially of the uses of the subjunctive and infinitive moods. Particular attention should be paid to the elements of word-formation, and the force of prefixes and suffixes. Proficiency may also be tested by questions on these topics.

(b) The translation at sight of standard German. It is believed that the requisite facility can be acquired by reading, in addition to the amount mentioned under "Elementary German," at least three hundred pages of classical and contemporary prose and dramatic verse.

[The following books are suitable in preparation for the Advanced examination : Eichendorff, *Aus dem Leben eines Taugenichts* ; Keller, *Kleider machen Leute* ; Hauff, *Lichtenstein* ; Freytag, *Aus dem Staat Friedrichs des Grossen* ; Lessing, *Minna von Barnhelm* ; Schiller, *Die Jungfrau von Orleans*, *Ballads*, *Die Geschichte des dreissigjährigen Krieges* ; Fulda, *Der Talisman*.]

Elementary French.

Four units.

It is expected that the candidate will have studied the subject in a systematic course of at least five periods a week for two years, and that special care will have been given to pronunciation and to translating into clear, idiomatic English.

The examination will consist of two parts : —

(a) The translation into French of English sentences or a short passage of easy connected prose, to test the candidate's familiarity with elementary grammar, especially the following subjects : the conjugation of the regular and the most frequently recurring irregular verbs ; the forms and positions of personal pronouns : the uses of the other pronouns and of possessive, demonstrative, and interrogative adjectives ; the inflection of

nouns and adjectives for gender and number, except rare cases ; the partitive construction.

(b) The translation at sight of ordinary French. It is believed that the requisite facility may be acquired by the reading of not less than four hundred pages of standard prose and verse ; with preference given to narrative style of contemporary authors.

[The following list is made up from works suitable for preparatory reading in Elementary French : Daudet's easier short stories ; Erckmann-Chatrian's stories ; Verne's stories ; Enault's *Le Chien du Capitaine* ; Foa's *Contes biographiques* and *Le petit Robinson* ; Labiche and Martin's *La poudre aux yeux* and *Le voyage de M. Perrichon* ; Laurie's *Memoires d'un collégien* ; Féval's *La fée des grèves* ; Merimée's *Colomba*.]

Advanced French.

Two units.

It is expected that the candidate will have added to the work done in preparation for Elementary French a further course equivalent to five hours a week for a year. He should also acquire the ability to follow a recitation conducted in French, and to answer in that language questions asked by the instructor.

The examination will consist of two parts :—

(a) The translation into French of a passage of ordinary English prose, not only as a test of vocabulary, but of the candidate's familiarity with the essentials of French syntax, especially with the uses of modes and tenses, with word formation, and the common idiomatic phrases. Proficiency may also be tested by questions on these topics.

(b) The translation at sight of standard French. It is believed that the requisite facility can be acquired by reading, in addition to the amount mentioned under "Elementary French," at least six hundred pages of standard prose, selected from not less than five different authors.

[The following books are suitable in preparation for the Advanced examination : About's stories ; Augier and Sandeau's *Le gendre de M. Poirier* ; Béranger's poems ; Coppée's poems ; La Brète's *Mon oncle et mon curé* ; Daudet's *La Belle-Nivernaise* ; A. France's *Le crime de Sylvestre Bonnard* and *Le livre de mon ami* ; Sandeau's *Mademoiselle de la Seiglière* ; Thiers's *L'expédition de Bonaparte en Egypte* ; Vigny's *La canne de jonc*.]

Elementary Latin.

Six units.

The examination will be adapted to the proficiency of those who have studied Latin in a systematic course of at least five periods a week for three years. It will consist of three parts:—

(a) The translation at sight of passages of simple Latin prose and verse. The passages must be rendered into simple and idiomatic English.

(b) A thorough examination on Cicero's Orations against Catiline, II, III, IV, directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms.

(c) The translation into Latin prose of simple English sentences, based on the prose works ordinarily read.

The reading in preparation for Elementary Latin should include Cæsar's Gallic War (Books I—IV); Cicero's four Orations against Catiline, and Oration for Archias; and, if possible, two thousand or more lines of Vergil, or of Ovid and Vergil; or the full requirement in Vergil (see Advanced Latin) may be presented in place of Cicero. Equivalents will be accepted.

Advanced Latin.

Two units.

The examination will be adapted to the proficiency of those who have studied Latin in a systematic course of at least five periods a week for four years. It will consist of two parts:—

(a) The translation at sight of passages of Latin prose and verse, with questions on the ordinary forms, constructions, and idioms, and especially on prosody.

(b) The translation into Latin prose of a passage of connected narrative.

Candidates for eight points in Latin must also take certain designated parts of the elementary paper.

The reading in preparation for advanced Latin should include Cæsar's Gallic War (Books I—IV); Cicero, six orations, (including the Manilian Law) Vergil's Æneid (six books). Equivalents will be accepted, but prose must not be substituted for verse.

Practice in reading at sight, and constant training in Latin Composition should form an important part of the preparation.

Advanced Latin Composition cannot be accepted at the Preliminary Examination.

Elementary Greek.

Four units.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course of at least five periods a week for two years. It will consist of two parts, which cannot be taken separately:—

(a) The translation at sight of passages of simple Attic prose.

(b) A thorough examination on Book II of Xenophon's *Anabasis*, directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms of the language.

Before taking the elementary examination the candidate should have read, in addition to the usual grammar work, at least four books of Xenophon's *Anabasis*, or an equivalent.

Advanced Greek.

Two units.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course of five exercises a week, extending through at least three school years. The two parts of the examination may be taken separately:—

(a) The translation at sight of an average passage of Homer; with questions on ordinary forms, constructions, and idioms, and on prosody.

(b) The translation into Attic prose of a passage of connected English narrative. The passage set for translation will be based on some portion of the Greek prose works usually read in preparation for college.

Before taking the examination in Advanced Greek the candidate should have completed at least four books of Xenophon's *Anabasis*, or their equivalent in Attic prose, and six books of Homer's *Iliad*, or their equivalent in the *Odyssey*. It is recommended that Greek composition accompany all stages of the preparation, and that the pupil be practiced in reading Greek aloud from the beginning of his course.

Elementary History.

One of the following: —

1. Greek and Roman History. (a) The history of Greece to the death of Alexander, with due reference to Greek life, literature, and art, as treated in the histories of Botsford, Oman, West, or Myers. (b) The history of Rome to the accession of Commodus, with due reference to Roman literature and government. Such texts as those of Morey, Botsford, West, or Allen will indicate the character of the work desired.

While the periods indicated above will be accepted as satisfying the entrance requirements in ancient history, it is strongly recommended that the study of the history of Greece be continued to the conquest of Greece by Rome, and that the history of Rome be pursued to the fall of the Western Empire.

This does not necessarily imply any increase in the time devoted to Greek and Roman history.

2. English and American History. (a) The history of England, with due reference to social and political development. The histories of Andrews, Larned, and Montgomery will indicate the character of the work expected. (b) The history and government of the United States. Such texts as McLaughlin's History of the American Nation, Johnston's or Channing's History of the United States, and Fiske's Civil Government should be used.

3. American history and civil government. A more extended and detailed study than is represented by 2 b above.

It is recommended that all candidates for admission to the courses leading to the degree of A.B. or B.D. should offer Greek and Roman history.

The elementary requirement in history implies one year's work of not less than five periods a week. Equivalents for the subjects named above will be accepted, but candidates desiring to offer substitutes must give notice to the Secretary of the Faculty at least one month previous to the time set for the examination. Work in the text-book should be constantly accompanied by collateral reading. The attention of teachers

is called to the Report of the Committee of Seven, published by the Macmillan Company, New York, under the title, "The Study of History in Schools."

Advanced History.

Two units.

One of the following: —

1. The history of Greece and Rome, as described above, for those only who have offered English and American history or American history and civil government as primary subjects.
2. The history of England and the United States, as described above, for those only who have offered Greek and Roman history as primary subjects.
3. American history and civil government, for those only who have offered Greek and Roman history as primary subjects.

Each of these subjects requires one year's study of not less than five recitation-periods a week. Equivalents for the subjects outlined above will be accepted, upon due notice, as indicated above under Elementary History.

Elementary Mathematics.

A knowledge of the metric system, and ability to perform accurately the ordinary processes of arithmetic, are presumed. The examination will include: —

(a) Algebra, through quadratic equations in one and two unknown quantities, the progressions, ratio and proportion, and the binomial theorem for positive integral exponents; also

(b) Plane Geometry, including the usual theorems on straight lines, angles, rectilinear figures, circles, and regular polygons; similar triangles and proportion; construction; simple original exercises in demonstration; numerical problems in mensuration.

Advanced Mathematics.

1. Advanced Algebra, including the elementary treatment of permutations and combinations, the theory of logarithms, undetermined coefficients, the binomial theorem for fractional and negative exponents, determinants, and the elements of the theory of equations. Credit in Advanced Algebra is given only on examination.

One unit.

2. Solid Geometry, including properties of straight lines and planes, dihedral and polyhedral angles; of projections, of polyhedrons, including prisms, pyramids, and the regular solids; of cylinders, cones, and spheres; of spherical triangles, and the measurement of surfaces and solids. *One unit.*

3. Plane Trigonometry, including the definition and relations of the six trigonometrical functions as ratios, proof of important formulæ, theory of logarithms and use of tables, solution of right and oblique plane triangles. *One unit.*

In Advanced Mathematics the school should insist upon the same amount of work and aim at the same standard of scholarship as the college requires in its courses in these subjects.

Physics.

(a) ELEMENTARY. The examination will be upon such elementary text-books as Gage's, or Avery's, with emphasis upon Mechanics and Energy. *One unit.*

(b) ADVANCED. In addition to (a), the candidate is required to present satisfactory evidence, by both certificate and record book, of having completed a year's course of laboratory experiments in physics of such grade as in Hall and Bergen's Text Book of Physics. *One unit.*

Chemistry.

(a) ELEMENTARY. Preparation for this requirement presupposes a course in general inorganic chemistry (the non-metals) of not less than four periods a week for a year, in amount equal to that in An Introduction to the Study of Chemistry, by Ira Remsen, with experimental work in the non-metals equal in amount to that in Remsen's or Williams's Laboratory Manual. The experiments are to be performed by the students. It is well to present a certified laboratory note-book. *One unit.*

(b) ADVANCED. The advanced requirement includes general inorganic chemistry, as in the elementary requirement, and in addition a course of not less than four periods a week for one year, devoted to the study of the metals. The amount must be equal to that in Remsen's text-book mentioned above, and involve experiments with the metals and their compounds, cov-

ering the ground of and equal in number to those in one of the above-mentioned laboratory manuals. *One unit.*

Natural History.

One or two units

In Natural History the examiners give more weight to the character of the work than to the time spent; but at least five periods a week for half a year must have been given to each subject presented, and of this at least half should be devoted to laboratory work. Certified copies of laboratory note-books must be presented. In Botany and Zoology the work should be on structural lines, and detailed study should have been made of at least ten types. Little credit will be allowed for time spent in the analysis of plants or the identification of birds or insects. The following are the subjects which may be presented for admission, the names of the authors of text-books in connection with each being an index of the character of the work expected. Each subject is awarded one or two units, but not more than two subjects will be accepted.

1. Botany: Atkinson, Bergen, Bessey, Campbell, Coulter, Setchell, Spaulding.
2. Zoology: Boyer, Colton, Kellogg, Kingsley, Needham.
3. Physiology: Huxley, Martin, Peabody.
4. Geology: Dana, Norton, Brigham, Tarr.

Freehand Drawing.

One unit.

The examiner requires evidence of ability to make an accurate outline or shaded drawing from a group of geometric models, or a shaded drawing from a simple cast. Such a knowledge of the fundamental principles of perspective is required as shall enable the student to draw a simple geometric figure without the use of a model. Certified drawings must be submitted, and the student may be examined on all points in doubt.

Mechanical Drawing.

One unit.

Accuracy and neatness in drawing is of the first importance, and no amount of work will make amends for neglect in these respects. The student must be familiar with the use of ordinary instruments, and able to solve geometrical problems with accuracy and rapidity. He must also be practiced in the drawing of

the ellipse, the parabola, and the hyperbola, and have an elementary knowledge of projection. The suggested course is included in the first seventy-five pages of Anthony's Elements of Mechanical Drawing. Certified work of the student must be presented, and he may be examined on all points in doubt.

Advanced standing is given in this subject only on examination.

Shopwork.

One unit.

The applicant should present satisfactory evidence of familiarity with tools and materials used in the ordinary processes of wood-work, or metal-work.

Wood-work includes carpentry, turning, and pattern work. It requires a thorough knowledge of the sharpening, adjustment, and use of the tools, and ability to work from drawings.

Metal-work includes chipping, filing, and the use of machine tools, at the bench and the lathe. Whenever possible, the applicant should present models made by himself and certified by his instructor.

Advanced standing is given in this subject only on examination.

Elementary Economics.

One unit.

Preparation for Economics presupposes that the candidate has studied the subject in a systematic course of at least three periods a week for one full year. Credit in Economics will be given only on examination. The examination will be based upon such text-books as Bullock's or Seager's Introduction to the Study of Economics. A knowledge of civics and, particularly, modern industrial history is of great value in supplementing the study of economic theory.

Music.

Entrance credit in Music is given only on examination.

(a) MUSICAL APPRECIATION.

One unit.

The examination will be adapted to the attainment of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate is expected to have

(1) a general knowledge of the principal musical forms—song,

classic dance, fugue, sonata (all movements), symphony—and of their historical development; (2) a general knowledge of the lives and environment of at least ten composers, including Bach, Mozart, Beethoven, Schubert, Chopin, and five of the following: Purcell, Handel, Gluck, Haydn, Cherubini, Weber, Rossini, Glinka, Mendelssohn, Schumann, Wagner, Verdi; (3) familiarity with certain designated works, the list of which may be had on application to the Secretary of Tufts College. In the examination on these works, the candidate will be expected to identify characteristic portions of the works set, when played by the examiner; and to give intelligent information concerning the form and character of the works themselves. The test will not require ability to perform, nor to read from printed music.

(b) HARMONY.

One or two units.

The examination will be adapted to the proficiency of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate should have acquired (1) the ability to harmonize, in four vocal parts, simple melodies of not fewer than eight measures, in soprano or in bass: these melodies will require a knowledge of triads and inversions, of diatonic seventh chords and inversions, in the major and minor modes; and of modulation, transient or complete, to nearly-related keys; (2) analytical knowledge of ninth chords, all non-harmonic tones, and altered chords (including augmented chords). [Students are encouraged to apply this knowledge in their harmonization.]

It is urgently recommended that systematic ear-training (as to interval, melody, and chord) be a part of the preparation for this examination. Simple exercises in harmonization at the pianoforte are recommended. The student will be expected to have a full knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use.

(c) COUNTERPOINT.

One unit.

The examination will be adapted to the proficiency of those

who, having completed a year's study of Harmony, have also studied Counterpoint in a systematic course of three lessons a week through one school year. The candidate should have had training in pianoforte-playing sufficient to enable him to render the Two-Part Inventions of Bach. The year's work should consist principally of written exercises on given or invented themes, as follows:—

Chorals and melodies harmonized, with use of passing and ornamental tones; the several orders of Counterpoint in two, three, and four voices, with and without *cantus firmus*; elementary practice in Double Counterpoint; Imitative Counterpoint in the style of the simpler Two-Part and Three-Part Inventions and Choral Preludes of Bach; general analytical study of contrapuntal compositions of larger scope, including detailed analysis (both as a harmonic scheme and as to contrapuntal treatment) of not less than ten pages from at least four fugues of Bach's Well-Tempered Clavichord.

There should be some practice with the C clef, in reading and in writing. Familiarity with the alto and tenor clefs is especially desirable.

(d) PIANOFORTE, OR VOICE, OR VIOLIN. *One unit.*

The examination in each of these subjects will consist of a test in theory, and a test in performance. The former will be conducted in writing, and will be adapted to the proficiency of those who have had one year's systematic training, with one lesson a week, or its equivalent. The candidate should have acquired:

A knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use; the ability to analyze the harmony and form of hymn-tunes and simplest pieces for the pianoforte, involving triads and the dominant seventh chord and their inversions, passing tones, and modulation to nearly-related keys; the ability to harmonize, on paper, in four vocal parts, melodic fragments involving the use of triads and the dominant seventh chord and their inversions in major keys.

As a basis of the test in performance, the candidate is to furnish a detailed statement from his teacher, showing the course of instrumental or vocal study pursued.

GENERAL INFORMATION RELATING TO ADMISSION

The regular examination for admission begins on the day after Commencement, and continues through the two following days. A second examination is held on the Saturday, Monday, and Tuesday preceding the beginning of the College year.

The examination begins at 9 o'clock A.M. on each of these days. See the calendar, pages 7, 8. A fee of five dollars is charged all candidates for examination. Those who subsequently enter the Department of Arts and Sciences will not be required to pay the registration fee.

At the regular examination in June those who will be candidates for admission to the Freshman class one or two years later may present themselves for examination in the subjects of the Primary Group, and in others upon which their teachers may certify that they are adequately prepared. They will receive certificates of the subjects in which they pass, such subjects to be credited to them when they appear for their final examinations.

For admission to advanced standing an examination must be well sustained both in the preparatory studies and in the studies in which the candidate desires credit for advanced standing.

All students entering on examination are required to register at the office of the Registrar before taking their examinations. All students are required to register on the opening day of the College year.

The certificates of the College Entrance Examination Board will be accepted from candidates unable to appear at the College for examination.

Admission by Certificate.—Certificates covering the preparatory work of candidates for admission from New England schools are received in lieu of examination only from schools that have been approved by the New England College En-

trance Certificate Board. The institutions represented upon the board are Amherst College, Boston University, Bowdoin College, Brown University, Dartmouth College, Mount Holyoke College, Smith College, Tufts College, the University of Maine, the University of Vermont, Wellesley College, Wesleyan University, and Williams College. Application for recognition upon the list of approved schools, when made to the Faculty of Tufts College, will be referred to the *Secretary of the Board, Professor N. F. Davis, 159 Brown St., Providence, R. I.*

Credit in the following subjects, which are outside the ordinary preparatory school curriculum, is allowed only upon examination: Advanced English, Advanced Algebra, Economics, and Music.

Applications must be received before April first, in order that a school may be placed on the approved list for the next academic year.

Certificates from schools outside of New England are examined by a committee of the faculty of Tufts College. Applications for the approval of such certificates should be made to the Secretary of Tufts College.

Each certificate must cover a preparatory course of not less than four full years of school work, which must have been in approved schools, though not necessarily continuously in one school. It must contain complete answers to such questions as may be proposed by the several examiners.

Certificates should be in the hands of the Registrar of the College at least one month before the opening of the College year.

Blank forms for certificates will be sent upon request made to the *Registrar of the College, Tufts College, Massachusetts.*

SCHOOL OF
LIBERAL ARTS

Faculty of the School of Liberal Arts

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT

FRANK G. WREN, A.M., DEAN
Walker Professor of Mathematics

PHILIP M. HAYDEN, A.B., SECRETARY
Instructor in French

CHARLES H. LEONARD, A.M., D.D., LL.D.
Goddard Professor of Homiletics and Pastoral Theology

EDWIN C. BOLLES, A.M., PH.D., D.D., LL.D.
Dickson Professor of English and American History

GEORGE M. HARMON, A.M., S.T.D.
Professor of Biblical Theology

CHARLES E. FAY, A.M., LITT.D.
Wade Professor of Modern Languages

WILLIAM G. TOUSEY, A.M., S.T.D.
Ryder Professor of Ethics and the Philosophy of Theism

GEORGE T. KNIGHT, A.M., D.D.
Packard Professor of Christian Theology

WARREN S. WOODBRIDGE, A.M., S.T.D.
Woodbridge Professor of Applied Christianity

J. STERLING KINGSLEY, Sc.D.
Professor of Biology

ALFRED C. LANE, A.M., PH.D.
Pearson Professor of Geology and Mineralogy

HERBERT E. CUSHMAN, A.M., PH.D.
Professor of Philosophy

LEO R. LEWIS, A.M.
Professor of the History and Theory of Music

DAVID L. MAULSBY, A.M.
Professor of English Literature and Oratory

FRANK W. DURKEE, A.M.
Professor of Inorganic Chemistry

WILLIAM K. DENISON, A.M.

Professor of the Latin Language and Literature

HARRY G. CHASE, B.S.

Professor of Physics

LAWRENCE B. EVANS, PH.D.

Professor of History

HENRY C. METCALF, PH.D.

Jackson Professor of Political Science

CHARLES ST. CLAIR WADE, A.M.

Professor of the Greek Language and Literature

THOMAS WHITTEMORE, A.B.

Professor of English, and Instructor in the History of Art

WILLIAM R. RANSOM, A.M.

Professor of Mathematics

FRED D. LAMBERT, A.M., PH.D.

Assistant Professor of Biology

WILLIAM H. REED, JR., A.M.

Instructor in German and Spanish

LIZZIE MAUD CARVILL, A.B., M.D.

Instructor in Physical Training for Women

PHILIP H. COBB, PH.D.

Assistant Professor of Physical and Organic Chemistry

RAY W. CLOUGH, A.M.

Instructor in Chemistry

CLINTON J. MASSECK, A.B.

Instructor in English

OSCAR MARTIN

Instructor in Physical Training

COMMITTEE ON PROMOTIONS

Dean Wren, *Chairman*; Professors Woodbridge, Durkee, Lewis, and Denison.

COMMITTEE ON CURRICULUM

Dean Wren, *Chairman*; Professors Maulsby, Fay, Denison, and Durkee.

Requirements for Degrees*

Students may enter upon their work in the courses of liberal arts as candidates for the degree of Bachelor of Arts, or Bachelor of Divinity. In any case the ground of promotion and of graduation is the intellectual attainment of the individual student, not a fixed requirement of a certain number of years of study.

The plan of study offered to the student is at once liberal, controlled, and elastic. It combines the essentials of the general culture which is the prime object of the undergraduate college course with an opportunity for the development of the individual on the lines to which he is especially adapted. Students determine the general direction of their work by the choice of major department. They are thereby brought into personal advisory relations with their respective major instructors, under whose guidance they arrange their programs with reference to their individual needs and aims. All work actually accomplished by the student in regular standing counts toward the attainment of the degree. The period within which the degree may be attained depends upon the industry and ability of the individual student.

SYNOPSIS OF THE REQUIREMENTS FOR A.B.†

(1) The requirement for the degree of Bachelor of Arts is the satisfactory completion of subjects aggregating one hundred and twenty-two term hours, including physical training.

(2) Students are required to attain for graduation a grade of at least C in seventy-two term hours.‡

* For the requirements for B.S. see "Courses in Science" and the announcement of the Engineering School ; for B.D. see the announcement of the Crane Theological School.

† Each department offers a series of subjects for study. The unit indicating the requirements is the *term hour*, which represents a subject pursued one hour a week for one half-year. Thus a subject calling for three hours a week for one term represents a requirement of three term hours ; if it calls for three hours a week for one year, or two terms, the requirement in that subject is six term hours.

‡ For the meaning of grade C, see "Grades of Scholarship" under "General Information."

(3) The program of prescribed studies is as follows:—

	TERM HOURS
LANGUAGES (Latin, Greek, French, German: each student to take <i>three</i>)	18
ENGLISH	6
MATHEMATICS	6
PHYSICAL SCIENCE (Physics, Chemistry, Biology: each student to take <i>one, or two</i>)	12
MENTAL AND MORAL SCIENCE (of the three departments, Philosophy, Political Science, and History and Public Law, each student must take work in <i>at least two</i>) . . .	12
PHYSICAL TRAINING	2
A total of	<hr/> 56

The requirements are by groups, not by special subjects, and in each group except English and Physical Training some choice is allowed the student.

(4) A normal Freshman program includes English, Mathematics, an ancient language, a second foreign language, and a physical science, together with Physical Training. All Freshman programs are subject to the approval of the Committee on Promotions.

(5) At the end of the first year the student is required to choose a major department, in which he must complete, before graduation, work amounting to eighteen term hours. He may offer work already done in that subject in some one of the prescribed groups as a part of the eighteen hours which he is required to give to his major department, but no subject indicated in the catalogue as elementary can be counted in such work.

(6) The student shall further complete eighteen term hours in subjects designated as collateral with his major subject; that is, subjects tending to strengthen and assist his work in his major.

(7) The remaining term hours of the required aggregate are to be made up by the election of the student from the various subjects offered, limited only by special restrictions applied to certain subjects. The number of the remaining term hours is thirty, unless, as occasionally happens, the same work counts

both as prescribed and as major work. In such case, the number of elective hours is proportionately increased.

(8) Upon the satisfactory completion of the aggregate requirement, the student is entitled to receive the Bachelor's degree, but no student shall be granted a degree in less than four years of residence, unless he shall have obtained grade B as an average for his entire work.

Summary

	TERM	HOURS
Prescribed work		56
Major department		18
Collateral subjects		18
Elective *		30
		<hr/>
		122

* An acceptable Commencement part counts as an elective in the second half of the Senior year. See also the second half of paragraph (7), above.

Departments of Instruction

MAJOR DEPARTMENTS

Any of the following may be chosen as major departments :

ENGLISH	POLITICAL SCIENCE
GERMAN	MATHEMATICS
FRENCH	PHYSICS
LATIN	CHEMISTRY
GREEK	BIOLOGY
PHILOSOPHY	ENGINEERING
HISTORY AND PUBLIC LAW	

In the subjoined statement of the subjects offered in the different departments, the name of the major instructor is that given at the head of each department that offers major work. In other cases the name is given of the instructor in general charge of the department. When two or more names appear, major students will be guided by the usage of the department. Names of instructors in charge of each subject are appended to the brief statement of the subject itself.

Subjects that continue through only one half-year are indicated by letters in parenthesis following the proposed hour: thus (F) means "first half-year," (S) means "second half-year." Subjects not so indicated extend through both terms. The credit in term hours for each half-year is equivalent to the number of program hours a week assigned to the subject, unless otherwise indicated.

Subjects enclosed in brackets will not be given during the current year. In many cases alternates are indicated, which fill their places in the program for this year. If less than four qualified students apply for an announced course, the instructor is permitted to cancel the announcement unless the course is

a part of the required work for any student applying. Subjects marked with an asterisk (*) will not be counted for honors. Subjects marked with a double asterisk (**) will be counted for honors only when special conditions are complied with.

A tabular view of the program of hours accompanies the subjoined statement of the several departments. No two subjects assigned to the same hour can be taken simultaneously by any student.

ENGLISH

PROFESSOR MAULSBY AND PROFESSOR WHITEMORE

The work of the department of English includes composition and the study of literature. Subjects 1, 2, 4, 8, 23, and 27 give practice in one or another form of composition as the result immediately held in view, but written English is required also in many of the classes aiming primarily at literary study. See also subject 7. Subjects 1 and 2 are prescribed for all students in the School of Liberal Arts. English 8 is required of those who fail to do satisfactory work in English 1 or English 2. Major students in English are required to take English 11, preferably in the earlier years of their course. Other subjects offer opportunity for practice in advanced composition, and for the study of eminent authors, of leading critical essays, of the development of English drama and fiction. English 10, 11, 12, or 15 may be counted for honors, provided only one of these subjects is so counted.

SUBJECTS

*1. The Four Forms of Discourse. Lectures, text-book, themes, conferences. *Tu., Th., Sat., 10.45.* (F)

PROFESSOR MAULSBY AND MR. MASSECK

*2. A Study of Expression. Lectures, themes, conferences. *Tu. Th., Sat., 10.45.* (S)

PROFESSOR WHITEMORE AND MR. MASSECK

[4. Advanced Composition. Lectures, themes, conferences. *Hours to be arranged. Counting as three hours.* (S)

PROFESSOR MAULSBY]

English 4 may be expected in 1910-11.

*8. The Theory and Practice of Composition. Themes, conferences. *Three hours, to be arranged.* (S)

PROFESSOR MAULSBY

7. English Versification. Study of the nature and the forms of poetry Composition. *Tu., Th., Sat., 10.45.* (S)

PROFESSOR MAULSBY

**10. The English Bible. *Tu., Th., Sat., 11.45.*

PROFESSOR WHITTEMORE

[**11. General View of English Literature. The study of representative masterpieces. Lectures, text-books, required reading, papers. *Mon., Wed., Fri., 11.45.*

PROFESSOR MAULSBY]

English 11 may be expected in 1910-11.

**12. American Literature. Lectures, required reading, text-book, essays. *Mon., Wed., Fri., 11.45.*

PROFESSOR MAULSBY

[14. Poets of the Victorian Era, chiefly Tennyson and Browning. Lectures, reading, brief critical essays. *Tu., Th., Sat., 8.45. (S)*

PROFESSOR WHITTEMORE]

English 14 may be expected in 1910-11.

**15. Prose of the Nineteenth Century. Lectures, reading, brief critical essays. *Mon., Wed., Fri., 11.45.*

PROFESSOR WHITTEMORE

[16. Milton and his Time. Lectures, readings, brief critical essays. *Tu., Th., Sat., 10.45. (F)*

PROFESSOR WHITTEMORE]

English 16 may be expected in 1910-11.

[17. Shakespeare. Minute study of a few plays, lectures, quizzes. *Mon., Wed., Fri., 8.45. (F)*

PROFESSOR MAULSBY]

English 17 may be expected in 1910-11.

38. Shakespeare. Reading of selected plays, lectures, brief critical essays. *Mon., Wed., Fri., 8.45. (F)*

PROFESSOR WHITTEMORE

18. Shakespeare. Reading of selected plays, lectures, brief critical essays. *Mon., Wed., Fri., 8.45. (S)*

PROFESSOR WHITTEMORE

[19. Chaucer. Study of forms and pronunciation, reading of selections from the Canterbury Tales and the minor poems. *Mon., Wed., Fri., 10.45. (S)*

PROFESSOR MAULSBY]

English 19 may be expected in 1910-11.

[21. The Principles of Criticism. Plato, Aristotle, Longinus, Quintilian, Burke, Lessing, Coleridge, Pater. *Three hours, to be arranged. (S)*

PROFESSOR WHITTEMORE]

English 21 may be expected in 1910-11.

23. The Short Story. Examples, and composition. *Three hours, to be arranged. (F)*

PROFESSOR WHITTEMORE

25. Development of the English Drama. Emphasis will be placed upon the modern drama. *Mon., Wed., Fri., 9.45.*

PROFESSOR MAULSBY

[26. Development of the English Novel, in the eighteenth and nineteenth centuries. *Mon., Wed., Fri., 9.45.*

PROFESSOR MAULSBY]

English 26 may be expected in 1911-12.

27. Homiletics. The Idea and Structure of the Sermon. Homiletic analysis of texts taken from the Bible; study of the sermons of eminent preachers with respect to literary form, expression, and range of illustration. Helps to sermon preparation from studies in character and literature. *Three hours, to be arranged.* PROFESSOR LEONARD

28. Seminar in Emerson. *Hours and credit to be arranged with the instructor.* PROFESSOR MAULSBY

English 28 is open only to advanced students of English.

ORATORY

PROFESSOR MAULSBY AND MR. MASSECK

It is intended that the study of oratory shall benefit the student, whether or not he looks to public speaking as a part of his profession. Oratory 1 aims at securing intelligent, natural, and forcible speech. The principles that underlie good public speaking are pointed out, and applied in individual practice. Oratory 2 is not organically connected with Oratory 1, but offers practice in argumentation and debate to Sophomores, Juniors, and Seniors. Each subject counts as three term hours.

SUBJECTS

1. The Principles of Oratory. Correct breathing and tone production; placing the voice; enunciation and pronunciation; attitude and gesture. Conferences. *Three hours, to be arranged.* (s)

PROFESSOR MAULSBY AND MR. MASSECK

2. Argumentation and Debate. Text-book, papers, impromptu and prepared debate. Individual criticism. *Three hours, to be arranged.* (f)

PROFESSOR MAULSBY

GERMAN

PROFESSOR FAY

The aim of the department is twofold, according as the student has entered with the elementary or the advanced requirement. In the former case it is to lead him in the briefest possible time to such a mastery of the language as will enable him to use it as a source of information and medium of literary culture; where this preliminary work has already been done, to afford this literary culture itself, together with such historical and linguistic knowledge as may properly accompany advanced work in a literary department. Hence, in the elementary subjects, facility and accuracy of translation are sought by means of

copious reading and careful grammatical drill; in the intermediate year the classic masterpieces are read for their own sake, together with such historical material as will throw light upon the epoch in which they were written or with which they deal; in the advanced work the systematic study of the history of the literature is undertaken, and opportunity is afforded for acquiring a knowledge of the earlier literary forms.

Six consecutive subjects are offered. While it is not impossible to take them all within the four college years, the scheme is based upon the supposition that the earlier subjects will have been taken in the preparatory school.

SUBJECTS

*1. Elementary German. The essentials of grammar; a German reader; reading of modern prose; dictation and composition. *Mon., Wed., Fri., 9.45.* MR. REED

German 1 is the equivalent of the entrance requirement in Elementary German, and should be taken in the Freshman year by all who enter with a condition in that subject.

*2. Review of grammatical principles, especially with reference to syntax. Reading of works by modern authors, lyrics and ballads. Dictation and composition. *Mon., Wed., Fri., 8.45.* MR. REED

German 2, when taken by entering students, presupposes two years' study of the language in the preparatory school. It is possible for a student who has done with distinction the work of German 1, and who shall do a prescribed amount of outside reading, to omit this subject and enter German 3.

**3. First half-year: the rapid reading of modern prose in contemporary authors. Second half-year: introduction to the classic authors: Lessing, Minna von Barnhelm; Schiller, Die Jungfrau von Orleans; Goethe, Hermann und Dorothea. *Tu., Th., Sat., 8.45.* PROFESSOR FAY

For entering students German 3 presupposes three years of preparatory study. Either half-year may be counted as a half-subject.

**3B. German Composition, written and oral. Translation from English into German; paraphrase of a German text. *Tu., Th., Sat., 9.45.* MR. REED

German 3B is offered to students who are taking or have previously taken German 3 or its equivalent.

4. Schiller and Goethe. Maria Stuart, Wallenstein, and Ballads of Schiller; Egmont, and selections from prose works of Goethe. Collateral reading. Dictation. *Tu., Th., Sat., 11.45.* MR. REED

German 4 is open to entering students who have had four years of preparatory study, or who have passed with distinction the entrance examination in Advanced German. Juniors and Seniors whose major department is German may be permitted to take 4 and 5 in the same year.

5. Advanced reading in Lessing and Goethe. Nathan der Weise, Emilia Galotti, Laokoön; Tasso, Iphigenie, Faust, Parts I and II, with collateral reading. *Mon., Wed., Fri., 10.45.* PROFESSOR FAY

6. History of German Literature, with illustrative works for leading epochs. Middle High German: Bachmann, Mittelhochdeutsches Lesebuch. *Mon., Wed., Fri., 8.45.* PROFESSOR FAY

FRENCH

PROFESSOR FAY AND PROFESSOR LEWIS

The plan and scope of the department are, in general, the same as those of the department of German, to the statement of which the student is referred. Six consecutive subjects are offered.

SUBJECTS

*1. Elementary French. The essentials of grammar, with composition; Grandgent's Grammar; a French reader; reading of short works of modern authors in prose and verse. *Mon., Wed., Fri., 9.45.* PROFESSOR LEWIS

French 1 is the equivalent of the entrance requirement in Elementary French, and should be taken in the Freshman year by all who enter with a condition in that subject.

*2. Review of grammatical principles, especially with reference to syntax; exercise in composition; vocabulary practice; reading of modern fiction and drama, such as Merimée's *Colomba* and Sandeau's *Made-moiselle de la Seiglière*. *Mon., Wed., Fri., 8.45.* PROFESSOR LEWIS

French 2, when taken by entering students, presupposes two years' study of the language.

**3. Reading of modern authors (Thiers, Taine, de Vigny); introduction to seventeenth-century classics (Corneille, Racine, Molière). Review of grammatical principles, with advanced vocabulary practice. *Tu., Th., Sat., 8.45.* PROFESSOR LEWIS

For entering students French 3 presupposes three years of preparatory study. Either half-year may count as a half-subject.

**3B. French Composition. Chardenal's Advanced Exercises; Pløetz, *Nouvelle Grammaire Française* and *Uebungen zur Erlernung der französischen Syntax*; brief essays and dictation. *Tu., Th., Sat., 9.45.*

PROFESSOR FAY

French 3B is offered to students who have satisfactorily completed French 2 or its equivalent. It is essential that at least one course in German should have been taken.

4. Literature and Manners of the Seventeenth Century. Crane's *Société française au XVII^e Siècle*; Molière, *Le Misanthrope*, *Les Précieuses Ridicules*, *Les Femmes Savantes*; Boileau, *Les Héros de Roman*; Madame de Sévigné; La Fontaine, *Fables* (selected); Warren's *French Prose of the XVIIth Century*; collateral reading touching the political history of the period, and selections from modern critics. *Mon., Wed., Fri., 2.00.*

PROFESSOR FAY

French 4 is open to entering students who have had four years of preparatory study of the language, or who have passed with distinction the entrance examination in Advanced French. Juniors and Seniors whose major department is French may be permitted to take 4 and 5 in the same year.

5. Literature of the Eighteenth and Nineteenth Centuries. The drama, poetry, the novel, the philosophical essay, and criticism. *Mon., Wed., Fri., 3.00.*

PROFESSOR LEWIS

Either half-year may count as a half-subject.

[6. A systematic study of French literature from the earliest times to the middle of the nineteenth century. The manuals of Petit de Julleville and Brunetière will be read, together with illustrative texts for the several epochs, from which some period will be chosen for more detailed study. *Mon., Wed., Fri., 9.45.*

PROFESSOR FAY]

ITALIAN

PROFESSOR FAY

The work offered in Italian is open to those only who have had two years of college study in French, or its equivalent. With such previous training, the student is able to acquire with rapidity a reading knowledge of the language, and thus to become acquainted within the year with characteristics of contemporary and classic literature. This subject is presented in alternate years.

SUBJECT

[1. Grandgent's *Grammar and Composition*; Bowen's *Reader*; Maffei, *Merope*; Dante, *Divina Commedia* (Scartazzini's edition). *Tu., Th., Sat., 10.45.*

PROFESSOR FAY]

LATIN

PROFESSOR DENISON

The aim of the department of Latin is to lead students to a thorough appreciation of a language and people that have had

profound influence on modern life and literature. A wide range of reading is offered, to give opportunity for acquaintance with every important division of Latin literature. Considerable time is devoted to reading at sight. The attention of students is directed constantly to the history, archæology, art, public and private life, and religion of the Roman people, as well as to the formation and structure of their language and its relation to other languages. Due emphasis is laid on the connection between ancient and modern life and thought. The various reading courses are supplemented with lectures on appropriate topics, and are illustrated from time to time with the stereopticon. Latin 1, 2, either 3 or 4, and two composition courses are offered every year, and a number of other subjects, such as Latin 8, 9, and 10, are given, with due announcement, at regular but longer intervals. Courses 3, 4, and all designated by numbers above 7, as well as all subjects in Classical Archæology, are suitable for graduate students. The authors and works named below may be changed, but are fairly indicative of the character of the work in the several subjects.

SUBJECTS

*1. Cicero, *De Senectute*, or selected letters; Vergil, *Eclogues*; selections from Latin poets; Livy, two books; reading at sight; lectures on suitable topics. *Division (a), Mon., Wed., Fri., 11.45; Division (b), Tu., Th., Sat., 11.45.*

PROFESSOR DENISON

Latin 1 is introductory to all later subjects. Latin 5 is designed primarily for students of Latin 1 who wish for work in composition.

2. Pliny, selected letters; Petronius, *Cena Trimalchionis*; Horace, *Odes* and *Epodes*; Tacitus, *Germania* or *Agricola*; reading at sight; lectures on suitable topics. The authors, with the exception of Horace, belong to the Silver Age. The student is thus carried into a new epoch of Latin literature. *Tu., Th., Sat., 9.45.*

PROFESSOR DENISON

Latin 2 is open to students who have completed Latin 1.

[3. Juvenal, principal *Satires*; Martial, selected *Epigrams*; Suetonius, selections; Catullus; reading at sight. Juvenal and Martial will be studied with special reference to the information they afford concerning the history and life of the early empire. *Three hours, to be arranged.*

PROFESSOR DENISON]

4. Horace, Satires and Epistles; Plautus, one or two plays; Cicero, selected letters; reading at sight. *Three hours, to be arranged.*

PROFESSOR DENISON

Subjects 3 and 4 will be given in alternate years, and are designed for those who have completed Latin 2, or its equivalent. They may, by special arrangement with the instructor, be taken as half-subjects in either half-year.

*5. Latin Composition; translation of English narrative, based in part on the prose authors read in Latin 1, with which it may be taken most profitably. *Tu., 2.00.*

PROFESSOR DENISON

6. Latin Composition. Latin 6 is open only to students who have completed Latin 5. In it particular attention is paid to idiom and style. By reason of the variation of the work from year to year, the subject may be taken a second time with due credit. *Th., 2.00.*

PROFESSOR DENISON

8. Terence, Phormio; Cicero, De Officiis, and Dream of Scipio. *Three hours a week. (s)*

PROFESSOR DENISON

[9. The Elegiac Poets, Tibullus, Propertius, and Ovid. *Three hours a week. (s)*

PROFESSOR DENISON]

[10. Lucretius, selections; Vergil, Georgics; Seneca, Medea. *Three hours a week. (s)*

PROFESSOR DENISON]

Latin 8, 9, and 10 are half-subjects, and are given, one each year, in regular rotation, if elected by a reasonable number of students. They are open to students who have completed Latin 1, but are intended to be supplementary to, not a substitute for, 2, 3, and 4. Those who wish to widen the range of their Latin reading will find these subjects suited to that end.

NOTE:—The attention of Greek and Latin students is called to related subjects listed under Classical Archæology, page 76.

GREEK

PROFESSOR WADE

The aim of the department is to treat the Greek language not merely as a disciplinary instrument, but as a factor in the broadest and most liberal culture. Throughout the course the practice of reading at sight is encouraged, and especial effort is made to develop such facility that the student may resort with pleasure to the masterpieces of the Greek language, and find in them the delights and inspiration of a noble literature.

To this end also considerable attention is paid to the style

and literary characteristics of the authors read. The relations of Greek to the Latin, German, and English languages are discussed, and the course is shaped to develop, discipline, and enrich the linguistic resources of the student. Reading without translation is encouraged from the beginning. Incidentally, studies are made of the customs and daily life of the people. Discussion relative to the laws, philosophy, and religion of the Greeks is introduced, and some attempt is made to exhibit the indebtedness of modern civilization to Hellenism.

SUBJECTS

*1. Elementary. Goodwin's Grammar; Xenophon, *Anabasis*; Homer. *Double subject. Daily: Mon., Wed., Fri., 11.45; Tu., Th., Sat., 9.45.*

PROFESSOR WADE

Greek 1 is intended for students entering without Greek and wishing to begin the study of that language. It is assumed that their previous training in linguistic studies will enable them to proceed rapidly and accomplish in one year all the work usually done in preparation for college. This subject may be taken (without credit) as a normal course by advanced students, on consultation with the instructor.

**2. Xenophon, *Memorabilia*; Homer, *Odyssey*; Euripides, one play. *Mon., Wed., Fri., 2.00.*

PROFESSOR WADE

Greek 2 is for students who have passed Greek 1, or the entrance requirements in Greek.

3. Herodotus, Books VII and VIII; Æschylus, *The Persians*; Sophocles, *Antigone*; Euripides, *Alcestis. Tu., Th., Sat., 11.45.*

PROFESSOR WADE

[4. Lyric and Elegiac Poets, to Pindar. Aristophanes: *Clouds*, *Birds*, *Acharnians*, *Frogs*, with study of social life in Athens in the fifth century B. C. *Tu., Th., Sat., 8.45.*

PROFESSOR WADE]

5. Theocritus, *Idyls*, with study of the Alexandrine age; Lucian; Homer, the *Iliad*, or the *Odyssey*, entire, with lectures on the results of the more recent investigations of the Homeric question. *Tu., Th., Sat., 8.45.*

PROFESSOR WADE

Subjects 4 and 5 will be given in alternate years, and are designed for those who have completed Greek 3 or its equivalent. They may, by arrangement with the instructor, be taken as half-subjects in either half-year.

**6. Greek Composition; practice in sight reading. *One hour a week.*

PROFESSOR WADE

Greek 6 may be taken by any one who has had the equivalent of Greek 1.

7. Greek Composition ; reading at sight. *One hour a week.*

PROFESSOR WADE

Greek 7 is open only to students who have completed Greek 6.

NOTE:—No student can be recommended as a teacher of Greek who has not taken at least one subject in Greek composition.

8. Plato : several of the shorter dialogues. *Three hours a week.* (F)

PROFESSOR WADE

Greek 8 is open to students who have completed Greek 2.

CLASSICAL ARCHÆOLOGY

Under Classical Archæology are grouped subjects of the Greek and Latin departments which deal, to a large measure in lecture form, with the art, life (both public and private), and religion of the ancient Greeks and Romans. The work will consist of lectures, collateral reading and investigation, and papers. There will be illustration, wherever possible, with photographs, stereopticon, and specimens. The following subjects are intended to supplement the reading of classical authors, which naturally forms the basis of serious study in Classical Archæology. It is intended to give two subjects each year, as follows:—

SUBJECTS

- [1. Greek, Roman, and Etruscan Architecture. *Mon., Wed., Fri., 9.45.* (F) PROFESSOR DENISON]

- [2. Greek and Roman Sculpture. *Mon., Wed., Fri., 9.45.* (S) PROFESSOR WADE]

Classical Archæology 1 and 2 will be given in 1910-11.

- [3. Roman Private Life. *Mon., Wed., Fri., 9.45.* (F) PROFESSOR DENISON]
Classical Archæology 3 will be given in 1911-12.

4. Greek Private Life. *Mon., Wed., Fri., 9.45.* (S) PROFESSOR WADE

In subjects 3 and 4 there will be systematic treatment of such topics as the customs pertaining to birth, education, marriage, death, the house, furniture, dress, meals, amusements.

5. Roman Public Life. *Mon., Wed., Fri., 9.45.* (F) PROFESSOR DENISON

- [6. Greek Public Life. *Mon., Wed., Fri., 9.45.* (S) PROFESSOR WADE]

In subjects 5 and 6 there will be systematic study of such topics as the geography and topography of the ancient world, commerce and navigation, political, legal, and military institutions, measures and money, books, inscriptions, religion and festivals, chronology and calendar.

Classical Archæology 6 will be given in 1911-12.

HEBREW

PROFESSOR WOODBRIDGE

Hebrew is offered as a foundation for the critical study of Old Testament literature, and of a more intimate understanding of Hebrew thought and life.

SUBJECTS

1. The Elements of Grammar; translation of portions of Genesis, of the Book of Ruth, and of other selections. *Tu., Th., Sat., 11.45.*

PROFESSOR WOODBRIDGE

2. Syntax; critical reading from the Historical Books, from the Prophets, and from the Psalms. *Three hours a week.*

PROFESSOR WOODBRIDGE

PHILOSOPHY*

PROFESSOR CUSHMAN, PROFESSOR TOUSEY, AND


PROFESSOR KNIGHT

The department offers work in all the traditional branches of philosophy, adapted to the needs of many kinds of students. To the specialist in science it affords a comprehensive view of the sciences from the point of view of metaphysics. To the student seeking general culture it affords the liberalizing study of the history of philosophy. To the student of mathematics it commends logic as a necessary supplement to his work. To the specialist in philosophy it will give work as far as an undergraduate should go. The beginner has open to him the choice of three subjects: logic, psychology, and the history of philosophy. In all cases where there is opportunity it is advised that the student begin with the history of philosophy. To follow this natural course makes of philosophy an inductive science. The other subjects may then follow at the student's option, or as his specific needs seem to demand. Students choosing philosophy as their major department will be expected to take at least three term hours each in the history of philosophy, logic, and psychology, and to make up three years of continuous work. The Philosophical Club holds meetings during the year. It gives opportunity to the students of discussing philosophical

* The three departments of Philosophy, History and Public Law, and Political Science constitute the group of Mental and Moral Science, in at least two of which twelve term-hours of work are required for the degree of A.B. See page 30.

subjects collateral with the regular work, and often invites eminent persons to address it on special topics.

INTRODUCTORY SUBJECTS

 Before pursuing Advanced Subjects in philosophy, students must have passed satisfactorily in one of these Introductory Subjects.

1. History of Ancient Philosophy: the religious period of ancient thought, the pre-Socratic Greeks, the Greek Enlightenment, Plato and Aristotle; the Hellenic-Roman thought, including Stoicism, Epicureanism, neo-Platonism, and early Christianity. Lectures, and text-book: Cushman's History of Ancient Philosophy. *Tu., Th., Sat., 9.45.* (F)

PROFESSOR CUSHMAN

2. History of Modern Philosophy: the beginnings of modern thought in the middle ages, the Renaissance (1500-1688), the modern Enlightenment (1689-1781), German philosophy from Kant to Hegel (1781-1820), modern Evolution theories. Lectures and text-book; Cushman's History of Modern Philosophy. *Tu., Th., Sat., 9.45.* (S) PROFESSOR CUSHMAN

3. Logic. Scope of the science; psychological data; concepts and propositions; first principles of thought; inference, deductive and inductive; elementary study of fallacies. *Tu., Th., Sat., 10.45.* (F) PROFESSOR TOUSEY

55. Psychology. Lectures, and illustrative experiments. The phenomena of consciousness are studied with reference to the physiology of the nervous system, including the brain, eye, ear, skin, nose, and mouth. The elements of consciousness, social psychology. Laboratory demonstrations. *Three hours for the year, to be arranged.* PROFESSOR CUSHMAN

ADVANCED SUBJECTS

4. Logic. Special discussion of the more important themes of Philosophy 3; particular consideration of scientific method; recent developments of the science; fallacious tendencies of mind; advanced treatment of fallacies. *Tu., Th., Sat., 10.45.* (S) PROFESSOR TOUSEY

Philosophy 4 is open only to those who have received credit in Philosophy 3.

[17. Logic. Studies in argumentative literature, with the aim to bring logical theory into relation with the practical requirements of research, advocacy, and criticism; and to illustrate the principles governing the effective presentation of arguments. Use will be made of selected examples of reasoned discourse, supplemented by discussions, and constructive work by the student. *Three hours, to be arranged.* (S) PROFESSOR TOUSEY]

Philosophy 17 is open only to those who have received credit in Philosophy 3.

6. Ethics, Theory of. The moral nature; springs of conduct; moral judgments; theories of the moral standard, particularly sentimentalism, hedonism, rigorism, eudæmonism; moral volition, with critical examina-

tion of the doctrines of free will and determinism; the moral ideal. Text-books, lectures, assigned reading, themes. *Mon., Wed., Fri., 10.45.* (F)

PROFESSOR TOUSEY

7. Ethics, Applied. Bearing of moral theory on the problems of (a) the individual life, (b) the social life. Special consideration of duties, rights, temperance, charities, moral pathology, penology, ethics of belief. Text-books, lectures, prescribed reading, and theses. *Mon., Wed., Fri., 10.45.* (S)

PROFESSOR TOUSEY

8. Ethics, Historical and Critical. History of ethical speculation; development of moral customs and ideals. Text-books, lectures, prescribed studies in the classics of ethical literature, and theses. *Three hours, to be arranged.* (F)

PROFESSOR TOUSEY

9. Metaphysics: the Theory of Reality, including a review and criticism of the common theories of life, such as materialism, realism, theism, mysticism, idealism, and the fundamental problems involved. Lectures, theses, text-book.

The problems discussed are those fundamental to science, ethics, æsthetics, and logic, considered from the point of view of metaphysics. Among these are the questions of teleology, consciousness and self-consciousness, personality, immortality, freedom and necessity, causation, nature, evil, beauty. *Three hours, to be arranged.* PROFESSOR CUSHMAN

[11. English Philosophy from Hobbes to Hume. The historical development of the English school of thought until Hume, with a critical and expository reading of the works of Hobbes, Locke, Berkeley, and Hume, together with a survey of contemporaneous and other political theories, such as those of Spinoza, Hooker, Rousseau, and Grotius. *Three hours, to be arranged.* (S)

PROFESSOR CUSHMAN]

[12. The Philosophy of Kant. A careful critical and expository reading of the Critiques of the Pure Reason, the Practical Reason, and the Judgment, in Watson's translation. The historical position of Kant with reference to his predecessors and to his influence upon modern thought. Lectures, prescribed reading. *Three hours, to be arranged.* (S)

PROFESSOR CUSHMAN]

[13. Descartes, Spinoza, and Leibnitz, their historical development and doctrines, with a critical and expository reading of their works. Lectures and prescribed reading. *Three hours, to be arranged.* (S)

PROFESSOR CUSHMAN]

Philosophy 13 will be given in 1910-11.

14. Plato: reading of the Dialogues, Jowett's translation. *Three hours, to be arranged.*

PROFESSOR CUSHMAN

15. The Philosophy of Theism. The final problem; limits of the intelligence; final cause in nature; evidences of a moral order; theistic and anti-theistic argumentation; intuitivism. *Mon., Wed., Fri., 11.45.*

PROFESSOR TOUSEY

16. The Philosophy of Religion, historical, critical, and constructive. Topical reports by the class, and lectures. *Tu., Th., Sat., 11.45.*

PROFESSOR KNIGHT

18. Psycho-Pathology. The mental and moral origin of functional nervous disorders, and their treatment by methods of suggestion. *Tu., Th., 3.00 ; Wed., 12.00.* (F)

PROFESSOR PRINCE

Philosophy 18 should accompany or succeed Philosophy 5. The Tuesday and Thursday lectures will be given at the Medical School, Huntington Avenue, Boston. The Wednesday exercise will be a clinic at the Boston City Hospital.

EDUCATION

The courses in Education are of value for those pursuing general culture as well as for those intending to become teachers. They are arranged to meet the growing requirements of the best city school boards. Students intending to teach should take in connection with the subject given below the course in General Psychology (Philosophy 5.)

SUBJECTS

11. First term: The History of Education. A general review of Educational movements in Europe since the Greeks, with some reference to Oriental systems. Lectures, Munroe's History of Education, biographies. Second term: Educational Theory. The discussion of the psychological principles involved in education. The school as a factor in society. Lectures and text-book; educational reports; discussions. Supplementary lectures on methods by teachers from secondary schools. *Tu., Th., Sat., 11.45.*

PROFESSOR CUSHMAN

HISTORY AND PUBLIC LAW*

PROFESSOR EVANS AND PROFESSOR BOLLES

The department aims to develop the idea of unity in the history of mankind, and to make the study of all history of practical value through its relation to present-day problems and conditions. To this end the approach is made through subjects intended to give a thorough scientific knowledge of essential facts, and so arranged as to show these facts in their proper relations. History 1 is the introductory subject by which the student is prepared for more detailed work. History 2 and 22

* See note, page 77.

are devoted to the history of England, History 3 and 33 to the history of the United States. The subjects numbered from 4 to 7 offer to properly qualified students opportunity to make a more detailed study of limited periods. These subjects are arranged in two series, which alternate with each other from year to year, and thus cover a considerable range. History 15 is devoted to research.

Students expecting to make History their principal study are urged to devote considerable time in their first and second years to the study of modern languages. In History 4, 5, 6, and 7 a reading knowledge of French is assumed.

In the division of Public Law and Administration the object is to furnish such general knowledge of political institutions and their working as is needed by every intelligent citizen, and also to assist those who expect to enter the legal profession or the government service. The study of law and government is closely related to the study of history, and hence one year of history is required for admission to the work in Public Law. The work in this group begins with a study of the political institutions of the United States, which is followed by more advanced subjects dealing with the institutions of our own and other countries, as well as by subjects treating international relations, and the history and principles of jurisprudence. A knowledge of French is desirable, and in some cases indispensable.

History

SUBJECTS

1. The General History of Europe since the Fall of Rome. History 1 is an outline course, designed to give a comprehensive view of the various political, religious, industrial, and social factors of the history of Europe, and thus to pave the way for a more detailed study of limited periods. Text-books, lectures, assigned readings, and the preparation of themes. *Mon., Wed., Fri., 10.45.* PROFESSOR EVANS AND MR. AVERILL

History 1 and 2 will not be accepted for an advanced degree. Students desiring to take as many subjects as possible in the department should elect History 1 and 2 in their second year.

2. History of England to 1688. Text-book, lectures, analyses, and themes. *Mon., Wed., Fri., 8.45.* PROFESSOR BOLLES

- [22. History of England from 1688 to 1900. *Mon., Wed., Fri., 8.45.*
PROFESSOR BOLLES]

- [3. History of America to 1800. Text-book, lectures, analyses, and themes. *Mon., Wed., Fri., 10.45.*
PROFESSOR BOLLES]

History 3 may be expected in 1910-11.

33. History of America in the Nineteenth Century. Text-book, lectures, analyses and themes. *Mon., Wed., Fri., 10.45.* PROFESSOR BOLLES

History 22 and 33 will be discontinued after 1909-10. History 2 will treat the General History of England, and History 3 the General History of America.

4. The History of the Continent during the Seventeenth and Eighteenth Centuries. A somewhat detailed study of the rise of Russia, the creation of Prussia, the rule of Richelieu and Mazarin, the age of Louis XIV, and the Ancient Regime. *Mon., Wed., Fri., 3.00.* (F)

PROFESSOR EVANS

5. The Expansion of Europe through the establishment of Colonies. A study of the acquisition of colonial dominion, the operations of the great trading companies, the rivalry of the European states in America and India, the Spanish colonial system in America and the Philippines, and the colonization and partition of Africa. *Mon., Wed., Fri., 3.00.* (S)

PROFESSOR EVANS

History 4 and 5 will not be given in 1910-11, but may be expected in 1911-12.

- [6. The French Revolution and the Napoleonic Period. The history of Europe from 1789 to 1815. *Mon., Wed., Fri., 3.00.* (F)

PROFESSOR EVANS]

- [7. The Nineteenth Century. One of the chief purposes of History 7 is to furnish some explanation of present-day questions in European politics. *Mon., Wed., Fri., 3.00.* (S)

PROFESSOR EVANS]


History 6 and 7 may be expected in 1910-11.

15. Seminary in History and Public Law. Investigation of selected topics from the sources. During the year 1909-10 the principal subject of study will be the diplomatic history of the United States. History 15 is open only to such students, making History their major subject, as receive the special permission of the instructor. *Hours and credit to be arranged with the instructor.*

PROFESSOR EVANS

Public Law and Administration

SUBJECTS

 History 1 must precede all subjects in Public Law. Students desiring to take all the subjects in this group should elect History 1 in their

second year, and Public Law 1 and 2, or their alternates, in their third year.

[1. Political Institutions of the United States—Federal, State, and Municipal. A study is made of government from the standpoint both of constitutional arrangements and of its actual working as modified by usage and existing conditions. Political parties and their organization, together with the attempts made to regulate them by law, will be studied. Text-book: Bryce, *The American Commonwealth*, accompanied by lectures, assigned readings, and the preparation of a thesis. *Mon., Wed., Fri., 11.45.* (F) PROFESSOR EVANS]

[2. Constitutional Law. A study of the Constitution of the United States, as interpreted in the chief decisions of the Supreme Court. *Mon., Wed., Fri., 11.45.* (S) PROFESSOR EVANS]

Public Law 1 and 2 may be expected in 1910-11.

[4. European Government and Politics. A study of the constitutions of the chief European states, together with a consideration of some of the most important questions of European politics. A reading knowledge of French is desirable. Text-book, lectures, assigned reading, and the preparation of a thesis. *Mon., Wed., Fri., 11.45.* (F) PROFESSOR EVANS]

5. International Law and the History of Diplomacy: the history of international law, a consideration of its leading principles, and some account of the most important treaties and diplomatic controversies. Text-book, lectures, assigned readings, and the preparation of a thesis. *Mon., Wed., Fri., 11.45.* (F) PROFESSOR EVANS]

7. Elements of Jurisprudence. A study of the leading juristic principles, based on the Institutes of Justinian and Blackstone's Commentaries, designed to fit students for a more intelligent study of the law from a professional standpoint. *Mon., Wed., Fri., 11.45.* (S) PROFESSOR EVANS]

Public Law 5 and 7 will not be given in 1910-11, but may be expected in 1911-12.

HISTORY OF RELIGIONS

PROFESSORS WOODBRIDGE, HARMON, AND KNIGHT

The department of History of Religions deals with a special phase of the general subject of history, showing the growth of superstition and religion, and their relation to civilization—including politics, social life, philosophy, literature, art, and personal character. The subjects offered are primarily for advanced students.

SUBJECTS

1. Life and literature of the Hebrew people, from the beginnings to the Greek period. *Mon., Wed., Fri., 4.00.* PROFESSOR WOODBRIDGE

2. A study of Jewish life in contact with Hellenistic culture and Roman provincial administration. *Three hours, to be arranged. (s)*

PROFESSOR HARMON

3. History of the Beginnings of Christianity. A study of the time of Jesus, of the rise and growth of the apostolic church, and of its literature. *Mon., Wed., Fri., 3.00. (F)*

PROFESSOR HARMON

4. Non-Christian Religions. Comparative studies of religion and civilization in ancient Egypt, in Chaldea, and in ancient and modern India, China, Japan, and Turkey. *Tu., Th., Sat., 8.45. (F)*

PROFESSOR KNIGHT

5. History of the Church, including the Sects, from the Apostles to the present time. *Tu., Th., Sat., 9.45.*

PROFESSOR KNIGHT

[6. Special studies of religion and superstition, ancient and modern. *Three hours, to be arranged. (s)*

PROFESSOR KNIGHT]

History of Religions 6 is open only to those who have taken History of Religions 4.

POLITICAL SCIENCE*

PROFESSOR METCALF

In its course of instruction, the chief aim of the department of Political Science is to give a general view of the most important branches of economics, beginning with the elements of the science and passing by degrees to work of the investigative order. In addition to this broad general outline of economics, the courses and the methods of study are arranged with reference to the constantly increasing needs of those who are fitting themselves for various practical careers, such as banking, transportation, or mercantile work; and to those who look forward to social and philanthropic work as a profession. Subject 12 is especially designed as training for those who are planning for a business career, or for social and philanthropic work as a profession. It should be taken in the Senior year, and is open only to students who are especially qualified to do the work. Students who are planning for a business life should begin the study of economics not later than the Sophomore year.

Subject 1 is designed to lay the foundation for the more advanced work, but endeavors at the same time to satisfy the

* See note, page 77.

wants of those who seek simply a general knowledge of economics. It is open to Freshmen. The character of the work in the advanced subjects is outlined in connection with the following statement.

SUBJECTS

*1. Elements of Economics. (a) Exposition of the fundamental principles of the production, distribution, exchange, and consumption of wealth. Economics 1 does not count for honors. (b) The present organization of industry, trades unions, coöperation, profit-sharing, immigration, child labor, woman in industry, factory legislation, workingmen's insurance, socialism. Ely's Outlines of Economics will be used as a guide. *Tu., Th., Sat., 10.45.* PROFESSOR METCALF

2. Modern Industrial History of Europe. After a brief survey of the economic conditions in the European countries at the close of the Middle Ages, the chief attention will be given to the Industrial Revolution in England, and to the rise of modern industrial Germany. Lectures and recitations. *Mon., Wed., Fri., 9.45.* (F) PROFESSOR METCALF

[22. Economic and Industrial History of the United States. Bogart's Economic History of the United States is used as a guide. *Mon., Wed., Fri., 9.45.* (F) PROFESSOR METCALF]

Political Science 22 will be given in 1910-11.

3. Practical Sociology. The nature and scope of social science. Economics 3 is conducted with reference to American conditions, and covers such topics as the status of the population of the United States; the units of social organization; special social problems of city life; questions of the family; wealth and poverty; the temperance question; criminology, penology; social achievement in the United States. Lectures and recitations. *Mon., Wed., Fri., 8.45.* (S) PROFESSOR METCALF

[4. Principles of Public Finance. Public expenditures; classification of public revenues; recent reforms in taxation; the development and significance of public debts; financial administration; recent European and American works on finance. The Elements of Public Finance, by Daniels, is used as a guide. Lectures and discussions. *Tu., Th., Sat., 8.45.* (F) PROFESSOR METCALF]

Political Science 4 will be given in 1910-11.

5. Money, Credit, and Banking: an historical course, with special reference to the financial experience of the United States. Leading topics are Hamilton's financial system; protection and revenue tariffs; the bank question; the fiscal policy of the Civil War; resumption of specie payments; the national banking system; state and local taxation; silver legislation and the panic of 1893; government loans; present currency prob-

lems. Dewey's Financial History of the United States is used as a guide. *Tu., Th., Sat., 8.45.* (S) PROFESSOR METCALF

6. Modern Industrial Combinations. The economics of corporations, with special reference to the so-called trust problem. Among the topics treated are trust promotion, capitalization, trusts and industrial efficiency, influence of combinations upon prices, profits, wages, rights of investors, international trade, industrial stability, and business honor; the practical results attained through publicity, taxation, and State regulation. Lectures, recitations, and reports. *Tu., Th., Sat., 9.45.* (F)

PROFESSOR METCALF

16. Modern Labor Problems. This subject deals mainly with the social and economic problems arising from the relations of employers and their laborers. The chief topics will be the growth, methods, and aims of modern associations of wage earners; methods of conciliation and arbitration; strike and factory legislation; employers' liability and recent compensation acts; compulsory publicity; provident institutions and friendly societies. Each member of the class will be expected to make a report upon a labor union. Lectures and recitations. *Tu., Th., Sat., 9.45.* (S)

PROFESSOR METCALF

[10. Transportation Problems. The economic, financial, and social problems arising from modern systems of transportation, with special reference to railway transportation in the United States. The chief topics are: brief historic survey of water and railway transportation; railway charters, powers of directors and stockholders, the nature of railway securities; railway traffic; fares, rate making, rebates, pooling and railway consolidations; the American systems of State railway commissions, the Interstate Commerce Commission, the recent extensions of Federal control; the effects of transportation systems upon industrial competition. A part of the time will be devoted to some of the more recent problems of electric railway development. A special report will be required from each student of the subject. Lectures and recitations. *Three hours, to be arranged.* (S)

PROFESSOR METCALF]

Political Science 10 will be given in 1910-11.

12. Vocational Training. *Business Organization and Management.* The structure of modern industry; increased complexity and integration of business structure; different systems of business organization; norms of standardization; staff and departmental organization; departments of research and industrial improvement. The standard of business honor; cultural bearing of business enterprise. Can business callings be placed upon a professional basis?

Women and Industry. Women's fitness for industrial life; women's pay; the place of domestic service in industry; occupational opportunities.

Betterment. Industrial hygiene; welfare work as a means of maintain-

ing friendly relations between employer and employed; essential principles of welfare work; examples of successful welfare institutions in the United States and in Europe; the functions of the welfare manager; welfare work as a profession for men and women.

Industrial Education. Unemployment and misemployment; industrial education and industrial efficiency; the State and industrial education; demand for such education; the relation between academic and technical education; types of trade and industrial schools; trade education and trade unions; industrial education as a social force; the education best suited for those entering upon trade and commerce; the demand for teachers of industrial and trade training.

Social Technology. Education for social efficiency; social work, social legislation, social settlements; principles adapted to the work of social organizers. Social and philanthropic work as a profession for men and women. *Three hours, to be arranged.*

PROFESSOR METCALF

8. Municipal Problems in Europe and the United States. Growth of modern cities, municipal monopolies, public works, recreation, sanitation; the public control, ownership, and operation of public service utilities, such as gas works, electric lighting plants, and street railway systems; the advantages and disadvantages of municipal trade; municipal trade and socialism. Lectures and recitations. *Mon., Wed., Fri., 9.45. (S)*

PROFESSOR METCALF

7. The History of Economics: an account of the beginnings, the progress, and the various schools of economic science; study of the writings of Adam Smith, Ricardo, Mill, and others. Political Science 7 is open to advanced students who are specializing in the department. A reading knowledge of French and German is desirable. *Mon., Wed., Fri., 4.00. (S)*

PROFESSOR METCALF

9. Seminar in Economics and Sociology, designed for advanced students who are specializing in the department. Questions in economics, statistics, or sociology may be selected. *Hours and credit to be arranged with the instructor.*

PROFESSOR METCALF

MATHEMATICS

PROFESSOR WREN AND PROFESSOR RANSOM

The aim of the instruction in mathematics is to cultivate power of exact thinking, as well as skill in symbolic methods of drawing necessary conclusions. The class-room work is a combination of lectures with questioning of the students to ascertain that the points presented have been duly comprehended.

Mathematics 3, with 1 or 2, constitutes the required work in mathematics. The two required subjects should be taken in

the Freshman year. Students who intend to pursue advanced work in the department should take 1 in preference to 2, and should take 4, 5, and 6 in the Sophomore and Junior years. They may then elect any of the remaining subjects.

Certain subjects in the Engineering School are of great value in supplementing and illustrating mathematical studies. Attention is called especially to Drawing 21-5 (which must be preceded by 21-1), to Civil Engineering 41-1 and 41-2, and courses in Applied Mechanics and Structural Engineering.

SUBJECTS

3. Trigonometry. *Tu., Th., Sat. : Division (a), 8.45 ; Division (b), 9.45.*
(F) PROFESSOR WREN
 1. Algebra: *Division (a), Tu., Th., Sat., 8.45 ; Division (b), 9.45. (S)*
PROFESSOR WREN
 2. Solid Geometry. *Tu., Th., Sat., 9.45. (S)* PROFESSOR RANSOM
 4. Analytic Geometry. *Mon., Wed., Fri., 10.45. (F)*
PROFESSOR WREN
 5. Elements of the Calculus. *Mon., Wed., Fri., 10.45. (S)*
PROFESSOR WREN
 6. Differential and Integral Calculus. *Mon., Wed., Fri., 9.45. (F)*
PROFESSOR WREN
 7. Differential and Integral Calculus (advanced). *Mon., Wed., Fri.,*
9.45. (S) PROFESSOR WREN
 9. Theory of Equations and Determinants. *Three hours for the first*
half-year. PROFESSOR RANSOM
 10. Differential Equations. *Three hours for the second half-year.*
PROFESSOR WREN
 12. Quaternions. *Three hours for the first half-year.*
PROFESSOR WREN
- Mathematics 12 is open to students who have completed Mathematics 1, 2, 3, and 4.
14. Theoretical Mechanics. *Hours to be arranged.*
PROFESSOR RANSOM

PHYSICS

PROFESSOR H. G. CHASE

Two subjects are open to those who are beginning Physics. Physics 1 is intended for students in the School of Liberal

Arts who are taking but six hours in physics as a part of the prescribed work in science. Physics 31-1 is a subject for engineers and those who are to continue the work of the department. All candidates for the degree of Bachelor of Science are required to take Physics 31-1, 31-2, 31-3, and 31-4. Major students in the department are not admitted to Physics 1. A text-book is used in each subject, practical comments and additional material are supplied, and frequent lectures are given, with experiments. The aim is to present the science of physics, not as a series of detached subjects, but as a consistent body of doctrine in which mechanical principles hold throughout, from which all the various phenomena are deducible. In each branch there are frequent returns to these first principles.

In the laboratory students are given a syllabus of the work for a guide. This syllabus is supplemented by Glazebrook's Physical Optics; Kaulrausch's Measurements; Stewart and Gee's Practical Physics, vols. 1 and 2; Glazebrook and Shaw's Practical Physics; Nichols's Laboratory Manual, vols. 1 and 2; and Watson's Practical Physics. In addition to the experimental and note-book work, many problems are solved.

The attention of major students in the department is called to the courses offered in the department of Electrical Engineering, and to the work in Applied Mechanics. Major students are strongly advised to elect the course in Mechanical Drawing.

SUBJECTS

1. General Physics. Lectures and experiments. Physics 1 is to be taken by students who choose physics for their prescribed science subject, and who do not intend to continue the work of the department. *Mon., Wed., Fri., 10.45.*

PROFESSOR H. G. CHASE

Mathematics 3 must precede or accompany Physics 1.

31-1. Mechanics and Sound. Physics 31-1 is introductory to all the other subjects offered by the department, except Physics 1. *Tu., Th., Sat., 11.45.* (S)

PROFESSOR H. G. CHASE AND MR. MORLEY

Mathematics 3, or its equivalent, must precede Physics 31-1.

31-2. Electricity and Magnetism, and Light. *Tu., Th., Sat., 10.45 or 11.45.* (F)

PROFESSOR H. G. CHASE AND MR. MORLEY

31-3. Mechanics and Heat. *Tu., Th., Sat., 10.45, or the same days at 11.45.* (S)

PROFESSOR H. G. CHASE AND MR. MORLEY

31-4. Physical Laboratory. *Mon., Wed., 8.45 to 11.45, or Tu., Th., 2 to 5.* (F); and *Mon., Wed., 8.45 to 11.45, or 2 to 5, or Tu., Th., 2 to 5.* (S)

PROFESSOR H. G. CHASE AND MR. MORLEY

2. Electricity. Thompson's Elementary Lessons in Electricity and Magnetism. Lectures and recitations. *Mon., Wed., Fri., 11.45.* (S)

PROFESSOR H. G. CHASE OR MR. MORLEY

31-5. Electricity. Elementary Mathematical Treatment. *Tu., Th., Sat., 8.45.* (F) PROFESSOR H. G. CHASE AND PROFESSOR HOOPER

31-6. Electrical Laboratory. Measurements and Tests. *Counting as two term hours. Tu., Th., 9.45 to 12.45; or Tu., Th., 2 to 5.* (F)

MR. ROLLINS AND MR. MUNRO

Physics 31-6 must be preceded by Physics 31-5.

6. Light and Sound. Recitations, lectures, and laboratory work. *Counting as six term hours. Hours to be arranged.*

PROFESSOR H. G. CHASE

[9. Heat. Lectures and recitations, based on Preston's Theory of Heat. Mathematics 6 is a prerequisite of Physics 9. *Counting as three term hours.* (F) *Hours to be arranged.*

PROFESSOR H. G. CHASE]

NOTE. Courses numbered 31-1 and over are intended primarily for Engineers.

CHEMISTRY

PROFESSOR DURKEE AND ASSISTANT PROFESSOR COBB

The work in the department begins with Chemistry 1, which is open for election by the students of the courses in liberal arts, and is required of engineering students in their second year. The instruction is by means of lectures, recitations, and laboratory work. The lectures, illustrated with numerous experiments, are intended to give a thorough elementary knowledge of theoretical and descriptive inorganic chemistry, including a brief account of the chemistry of the carbon compounds and the principal technical processes. One-half of the time devoted to this subject is given to practical work in the laboratory, and the student has an opportunity to verify some of the chemical theories, and to become familiar with substances and their chemical behavior. The lectures are supplemented with recitations and written exercises. An opportunity to continue the study of theoretical and advanced inorganic chemistry is

afforded by subject 11, a course of lectures with laboratory practice, in which simple physical and chemical measurements are made, and some of the less common preparations.

The instruction in qualitative analysis is given through a year, in two subjects (2 and 3), taught in part by lectures and recitations, but mainly by work in the laboratory. During the advanced course the student is required to analyze correctly alloys, mixtures of salts, minerals, slags, and other metallurgical products. Quantitative analysis is taught for the most part in the laboratory, and is designed to give the student the theoretical knowledge and skill in manipulation which are necessary for success in this kind of work. In subject 4 the student is required to analyze the simpler salts, alloys, and minerals. In subject 5 water and the more complicated minerals, ores, and commercial and food products are analyzed. Organic analysis is included in subject 5. Technical gas analysis (subject 9) is taught by lectures and laboratory work. The Orsat, Hempel, and Elliott systems are used. Assaying (subject 7) is adapted to familiarizing the student with the practical methods and theory of sampling and assaying gold and silver ores. The above subjects cover a comprehensive study of analytic chemistry, and are intended to give the student such thorough theoretical and practical knowledge as to prepare him for analytical work of almost any description. Metallurgy (subject 8) is intended to give the student some of the more important methods of extracting gold and silver from ores. It should be taken after or in connection with Fire Assay (subject 7). The metallurgy of iron and steel is an alternative.

The work in organic chemistry consists of a course of experimental lectures, together with recitations and laboratory work, which are designed to cover the general principles and methods, and include a description of the most important organic compounds. The laboratory practice in organic chemistry will be carried on in connection with subject 10, and will include the preparation of many typical compounds.

In Chemistry 12, opportunity will be given advanced students,

under the direction of instructors, for the consideration and discussion of chemical subjects and recent investigations.

The quantitative and organic laboratories are open from nine to five o'clock daily, Saturday afternoons excepted.

SUBJECTS

1. General Chemistry. Lectures, recitations, and laboratory work. *Lecture, Wed., Fri., 11.45; three hours of laboratory work, Mon., 2.00 to 5.00. Counting as six term hours.*

PROFESSOR DURKEE, ASSISTANT PROFESSOR COBB, AND ASSISTANTS

2. Qualitative Analysis. Basic analysis. Lectures, laboratory work, and recitations. *Tu., Th., 2.00 to 5.00 (F) Counting as three term hours.*

PROFESSOR DURKEE AND ASSISTANTS

3. Qualitative Analysis. Acids, analysis of salts, commercial and natural products. Lectures, laboratory work, and recitations. *Tu., Th., 2.00 to 5.00. (S) Counting as three term hours.*

PROFESSOR DURKEE AND ASSISTANTS

After 1909-10 Chemistry 2 and 3 will be known as Chemistry 35-2 and 35-3, each counting as two term hours.

4. Quantitative Analysis. Gravimetric and volumetric analysis; analysis of minerals. Lectures and laboratory work. *Mon., Wed., Fri., 2.00 to 5.00. Counting as six term hours.*

PROFESSOR DURKEE

5. Quantitative Analysis (advanced course). Analysis of minerals, ores, water, food products, organic analysis. Laboratory work. *Mon., Wed., Fri., 2.00 to 5.00. Counting as six term hours.*

PROFESSOR DURKEE

7. Fire Assay. Open to students who have taken 1, 2, 3, and 4. *Tu., Th., 2.00 to 5.00. (S) Counting as two term hours.*

PROFESSOR DURKEE

8. Metallurgy of Gold and Silver. Lectures, recitations, and laboratory work. Chemistry 8 is open to students who have taken Chemistry 1. Metallurgy of iron and steel is alternative. *Wed., Fri., 10.45. (S) Counting as two term hours.*

PROFESSOR DURKEE

9. Gas Analysis. Lectures and laboratory work. Chemistry 9 is open to students who have taken Chemistry 1, 2, 3, and 4. *Mon., 2.00 to 5.00. Counting as one term hour. (F)*

PROFESSOR DURKEE

10. Organic Chemistry. Lectures, recitations, and laboratory work. Chemistry 10 is open to students who have taken Chemistry 1. *Mon., Wed., Fri., 8.45. Three hours of laboratory work, to be arranged with the instructor. Counting as nine term hours.*

ASSISTANT PROFESSOR COBB

After 1909-10 Chemistry 10 will be known as Chemistry 35-10, counting as eight term hours.

11. Theoretical and Advanced Inorganic Chemistry. Lectures, recitations, and laboratory work. Chemistry 11 is open to students who have taken Chemistry 1, 2, and 4. *Lectures, Tu., Th., 8.45. Two hours of laboratory work, to be arranged with the instructor. Counting as six term hours.*

ASSISTANT PROFESSOR COBB

12. Discussion of Chemical Subjects and Recent Investigations. *One hour a week.* PROFESSOR DURKEE AND ASSISTANT PROFESSOR COBB

14. Medical Chemistry. Lectures, quizzes, and laboratory work. (F) *Counting as thirteen term hours.* PROFESSOR BALCH AND DR. THORPE

Chemistry 14 must be preceded by Chemistry 1, 2, and 3. It is given at the Tufts Medical School, 416-430 Huntington Avenue, Boston.

15. Applied Chemistry. A course dealing with the most important applications of inorganic and organic chemistry to manufacturing purposes, such as the production of sulphuric acid, soda, illuminating gas, and sugar. Lectures, visits to plants, text-book work, and recitations. *Two periods a week for the year, counting as four term hours.* PROFESSOR DURKEE

[16. Thesis. Investigation of a problem in Inorganic, Organic, or Technical Chemistry. Open to students of A.B. and Science Courses who have satisfactorily completed Chemistry 1, 2, 3, 4, 5, and 10. *Nine laboratory hours a week for the year, to be arranged. Counting as six term hours.*

PROFESSOR DURKEE AND ASSISTANT PROFESSOR COBB]

BIOLOGY

PROFESSOR KINGSLEY AND ASSISTANT PROFESSOR LAMBERT

Instruction in biology is given both by lectures and by laboratory work, the object being to impart the scientific method of work and thought rather than to cram the student with a large number of unimportant facts. In the laboratory, eighty hours of work for each half-year is the minimum, but mere time service is not sufficient: a certain series of forms must be studied, to the satisfaction of the instructors.

Biology 1 is intended for those who wish to take but a single year of work in this department. Major students, and candidates for the degree of Bachelor of Science in the General Science or the Medical Preparatory Course, will take Biology 2 and 3 in its place. Special students, coming for a single year before entering the Medical School, will take Biology 3.

By special arrangement with the instructor, additional work may be done in connection with Biology 2 and 3, and corresponding credit will be given. Intention of doing such work

must be indicated at the time of registration, and the student must also attain grade B in order to obtain such credit.

Three of the subjects in this department (4M, 5M, and 9) are given at the Medical School, 416-430 Huntington Avenue, Boston. These subjects may be taken by candidates for the bachelor's degree, and in this way students contemplating the study of medicine may anticipate one year of their professional course. Those who wish these subjects to count for the bachelor's degree must have previously taken at least Biology 3.

There are three well-lighted laboratories, furnished with every requisite for good work, including microscopes, microtomes, reagents, and abundant material for illustration and dissection. There is also a department library containing more than 3,000 volumes and over 7,000 pamphlets and parts of volumes, while the college library contains the proceedings of many learned societies, both American and foreign. Besides these, proximity to Boston and Cambridge gives easy access to library facilities unequaled in any other part of America. There is required from all students taking laboratory subjects a laboratory fee of two-dollars-and-a-half a term for each subject, payable in advance.

SUBJECTS

1. General Biology. Lectures and laboratory work. *Mon., Fri.: lecture, 11.45; laboratory, Mon., Fri., afternoons, 128 hours. *Counting as six term hours.* PROFESSOR KINGSLEY AND ASSISTANT PROFESSOR LAMBERT

2. Morphology of Invertebrates. Lectures and laboratory work. *Tu., Th.: lecture, 4.00; laboratory, Tu., Th., afternoons, 128 hours. Counting as six term hours.* PROFESSOR KINGSLEY

Biology 2 is given in alternate years. It will not be given in 1910-11.

3. Morphology of Vertebrates. Continuation of Biology 2. *Tu., Th.: lecture, 11.45; laboratory, Tu., Th., afternoons, 128 hours. Counting as six term hours.* PROFESSOR KINGSLEY

4M. Human and Comparative Physiology. Lectures, recitations, conferences, and laboratory work. *Counting as thirteen term hours. (S)* PROFESSOR DEARBORN

Biology 4M is given at the Tufts Medical School, Boston.

5M. Histology, Medical. Lectures, quizzes, and laboratory work. *Counting as five term hours. (F)* PROFESSOR BATES AND DR. WINSLOW

Biology 5M is given at the Tufts Medical School, Boston.

6. Systematic Zoology. Laboratory work in the identification and classification of specimens. *Counting as three term hours.* (F) or (S)

PROFESSOR KINGSLEY

Biology 6 requires ability to read French and German.

7. Botany. Lectures and laboratory work. *Tu., Thu.: lecture, 8.45; laboratory, afternoons, 128 hours.* *Counting as six term hours.*

ASSISTANT PROFESSOR LAMBERT

8. Special Work. The investigation of some problem. *Three hours or more of credit, at the rate of thirty-two hours of laboratory work for one hour of credit.*

PROFESSOR KINGSLEY

9. Human Anatomy. Lectures, quizzes, and dissection. *Counting as thirteen terms hours.* (F)

PROFESSOR H. H. GERMAIN

Biology 9 is given at the Tufts Medical School, Boston.

GEOLOGY

PROFESSOR LANE

The subjects offered in the department of Geology do not form a sequence, but are intended to give different classes of students that knowledge of geology and mineralogy which they need. In all cases, they aim to include some real grasp upon the structure and history of the earth, the problems presented in the study thereof, and the modes of attack upon those problems. The first subject (Geology 1) is introductory, open to all, and intended primarily for those who have had no previous work in science. The other subjects are such that certain preliminary studies, stated in connection with each, must be taken before entering upon them.

The illustrative collections in these lines are ample. Besides exhibition specimens in the Barnum Museum, there is a working collection illustrating mineralogy, lithology, and dynamical and historical geology. These are supplemented with maps, diagrams, photographs, and lantern slides. The work in each subject consists of lectures and recitations, together with work in the laboratory and in the field. Excursions are taken to neighboring points that illustrate certain phenomena. Tufts College is well placed for field work and for the study of various natural processes. The laboratory fees are four dollars for each subject in mineralogy, and two dollars in geology.

SUBJECTS

[1. Physical Geology and Geography. Lectures and recitations; laboratory and field work. *Hours to be arranged.* (S) *Counting as three term hours.* PROFESSOR LANE]

2. General and Economic Geology. Lectures, recitations, laboratory and field work, six hours a week; open to students who have taken Physics 1, Mathematics 3, and Chemistry 1. *Hours to be arranged.* *Counting as six term hours.* PROFESSOR LANE

[3. Mathematical Problems presented to geologists. Conferences and critical reading of selected papers and original work. Mathematics 4 must precede Geology 3; Mathematics 6 must precede or accompany it. *Counting as six term hours.* PROFESSOR LANE]

[4. Field Geology. Conference, one hour; field work, six hours a week; open to students who have taken Geology 2. *First part of first and last part of second half-year.* *Counting as three term hours.* PROFESSOR LANE]

MINERALOGY

1. Mineralogy and Lithology. Recitations (Pirsson) two hours; laboratory, four hours a week; open to students who have taken Chemistry 1. *Tu., Th., Sat., 10.45 to 12.45.* (F) *Counting as three term hours.*

PROFESSOR LANE

Mineralogy 1 alone may be of use to civil and structural engineers, but those who are looking to mining or chemical engineering should take both courses, if any.

2. Crystallography and Descriptive Mineralogy. Lectures, two hours a week; laboratory work, four hours a week; open to students who have taken Mineralogy 1. *Tu., Th., Sat., 10.45 to 12.45.* (S) *Counting as three term hours.* PROFESSOR LANE

DRAWING AND ENGINEERING

Subjects in Drawing, and in Civil, Structural, Mechanical, and Electrical Engineering, are open to competent students who are not looking for a technical course. For a list of those subjects, the hours, and the preparation required, consult the announcement of the Engineering School.

MUSIC

PROFESSOR LEWIS

The department of Music offers opportunities to gain a knowledge of musical history and of the principles of composition, as a basis for practical work in music or in musical criticism.

The subjects, Elements of Theory, Harmony, General History of Music, and Musical Appreciation may well be taken, however, by students who have no intention of preparing themselves for professional work in the art.

SUBJECTS

9. Musical Appreciation, Elementary. Systematic studies in musical form, from the listener's standpoint. *Three hours a week.* (F)

PROFESSOR LEWIS

☛ Music 9 and 10 will be given in 1909-10 only if elected by at least fifteen students, including Seniors.

For Music 9 no technical preparation is requisite, but ability to recognize a melody is presupposed. Ability to follow a piano score is very helpful. Outside reading and laboratory study with automatic instruments are required.

10. Musical Appreciation, Intermediate. A continuation of Music 9. *Three hours a week.* (S)

PROFESSOR LEWIS

1. Elements of Theory. Lectures, practice, and analysis, with various text-books for reference. *Tu., Th., 4.00, and a third hour, to be arranged.* (F)

PROFESSOR LEWIS

Only acquaintance with musical notation and with the piano keyboard is required. Music 1 is introductory to Music 21.

21. Harmony. Lectures and practical work, based on Chadwick's Manual of Harmony; collateral reading on biography and on theory. *Tu., 3.00 to 4.00; Th., 3.00 to 5.00.* (S)

PROFESSOR LEWIS

[22. Advanced Harmony. A continuation of Music 21. *Three hours, to be arranged.* (F)

PROFESSOR LEWIS]

[3. Sight-reading in Song, and Harmonic Analysis. *Three hours, to be arranged.* (S)

PROFESSOR LEWIS]

Only those who have finished Music 22 may take Music 3. The harmonic analysis begun in Music 22 is continued, with special attention to the more difficult problems of modern music. Harmonic Analysis, by B. Cutter, and Melodia, by Cole and Lewis, are the text-books.

4. Counterpoint. Lectures and practical work, based on the manuals of Goetschius, Spalding, and others; collateral reading on biography and theory. *Three hours, to be arranged.*

PROFESSOR LEWIS

A thorough theoretical knowledge of harmony, and facility in the harmonization of basses and choral melodies, are required of those who take Music 4. A full equivalent of Music 21 and 22 must have been done by students who wish to begin their college work with Music 4. Laboratory work with the automatic instruments is required.

After 1909-10, Music 4 will be given as two subjects, Music 23 (S) and Music 24 (F).

[6. General History of Music, from the earliest times to the present day, with special attention to the period since the death of Palestrina. Lectures, with various treatises for reference. *Three hours for the second half-year.* PROFESSOR LEWIS]

Music 6 may be given in 1909-10.

[25. Studies in one or more of the following subjects: Canon, Fugue, Orchestration, Form, Free composition, Musical History, Musical Criticism. *Three hours a week.* PROFESSOR LEWIS]

The studies may be directed by lectures, or may consist of individual work of students under the supervision of the instructor. Requirements as to previous studies in Music and in foreign languages will be given on application to the instructor.

THE FINE ARTS

PROFESSOR WHITEMORE

The department of the Fine Arts stands collaterally with literature and music—offering an opportunity for the study of the history of painting, sculpture, architecture, and the minor arts. The subjects given are open to Sophomores, Juniors, and Seniors.

[1. The History of Greek Art, with an introduction on the Arts of Egypt, Assyria, and Phœnicia. *Mon., Wed., Fri., 9.45.*

PROFESSOR WHITEMORE]

2. The Fine Arts of the Middle Ages. *Mon., Wed., Fri., 9.45.* (F)

PROFESSOR WHITEMORE

3. The Fine Arts of the Renaissance. *Mon., Wed., Fri., 9.45.* (S)

PROFESSOR WHITEMORE

PHYSICAL TRAINING, 1909

MR. MARTIN AND DR. MAUD CARVILL

The aim of the department is to secure the interest and participation of the students in such exercises and training as all students need for corrective, hygienic, and recreative purposes.

The objects of the work are a healthy body, erect carriage, self-control, fearlessness, muscular co-ordination, and symmetrical development. These objects are accomplished by regular class exercises in the gymnasium during the winter, by optional work after the class hours, and by out-door work in the fall and

spring, when the weather is suitable. Women are required to spend an hour a day, during a part of the year, in out-door exercise.

Physical measurements and strength tests of all students are taken at the beginning and end of the gymnasium course, and also at such other times as seem necessary. These form the basis of comparison of the condition and needs of the student, and determine the character and amount of exercise necessary to overcome marked deficiencies, irregular development, or such deformities as may be benefited by physical exercise. The Freshmen will be given a series of lectures on the hygiene of diet, bathing, exercise, study, and recreation. Students may also receive personal advice with reference to habits of life. Regular exercise, — consisting of calisthenics, Swedish work, Indian club, wand, and dumb-bell drills, and the principles of heavy gymnastics, — as well as games and in-door and out-door athletics, is required two hours a week, from October to May, of all undergraduate students, for the first two years following entrance. Participation in any one of the organized sports may be substituted for the required work, for the time in which that sport is practiced. The work is optional the remaining years of the course.

The intention of the department is to make physical training of such character that the weakest as well as the strongest can engage in it with profit.

ELECTIVE PHYSICAL TRAINING

[An advanced course, including theory and practice. Hygiene, elementary anatomy, physiology, first aid; the teaching of gymnastics, graduation of exercises, gymnasium management; advanced drills and apparatus work. Lectures, two hours a week (F); drills, two hours a week (F) and (S). *Counting as three term hours.*]

TABULAR PROGRAM, COLLEGE OF LETTERS

Subjects *not given* this year are bracketed in department statements

Subjects in Roman type occupy three periods

Subjects in *Italic* type occupy two periods; in **Boldface** type, one period

MONDAY, WEDNESDAY, FRIDAY

	2.00	3.00	4.00	5.00*
HAMILTON				
LEONARD				
BOLLES				
HARMON		HR F3		HR S2
FAY	Frn w4			
TOUSEY				
KNIGHT				
WOODBIDGE			HR w1	
KINGSLEY	. . Laboratory appointments .	.	.	sScGer
LANE				
CUSHMAN				Phl w55, 9
L. R. LEWIS		Frn w5		Mus w4, s6, F22
MAULSEY				Eng s4, 8, w28
DURKEE	. . Laboratory appointments .	.	.	Chm w15
DENISON				Lat w3, 4
EVANS		Hst F4, 6, s5, 7		Hst w15
H. G. CHASE	. . Laboratory appointments .	.	.	
METCALF			PIS s7	
WADE	Grk w2			Grk w11
WHITTEMORE				Eng F23, s21
WREN				
LAMBERT	. . Laboratory appointments .	.	.	
RANSOM				Mth w14
REED				
COBB	. . Laboratory appointments .	.	.	
MARTIN			PhsTrn	Phs Trn
				*Hours in this column are subject to re-assignment during the opening week.

Courses in Science*

The special courses in Science lead to the degree of Bachelor of Science. Like the Engineering courses, they are placed upon a technical basis, and far less latitude is allowed the student in the choice of subjects than in the course in Arts.

Three courses are provided: the Course in General Science, designed mainly to prepare teachers in science for the secondary schools; the Chemical course, designed to fit the student for the industrial applications of chemistry, and for the advanced study of chemistry; and the Medical Preparatory Course, an introduction to the professional study of medicine. Graduates of the Medical Preparatory Course anticipate one year of the four years of study required at the Tufts Medical School.

The studies of the First Year are alike for all three courses. For description of subjects, see "Departments of Instruction."

FIRST YEAR

[Alike for the three courses in science]

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
English	1	3	English	2	3
Mathematics	3	3	Mathematics	1 (or 2)	3
†German	2 (or 3)	3	†German	2 (or 3)	3
Physics	1	3	Physics	1	3
Chemistry	1	3	Chemistry	1	3
Physical Training			Physical Training		1

* For entrance requirements to the Courses in Science, see page 7.

† If the equivalent of German 3 is presented for entrance, the language work of the first year will be in French.

GENERAL SCIENCE COURSE*

MAJOR INSTRUCTOR, PROFESSOR H. G. CHASE

First Year, alike for all science courses. See page 105

Second Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
Biology	2 (or 3)	3	Biology	2 (or 3)	3
Chemistry	2	3	Chemistry	3	3
Physics	3-2	3	Physics	3-3	3
Physics	3-4	3	Physics	3-4	3
Mathematics	4	3	Mathematics	5	3
Physical Training			Physical Training		1

At the close of the Second Year the student will be expected to choose Physics, Chemistry, or Biology as a major department, and thereafter his work will be under the direction of the head of the department chosen.

Third Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
Chemistry	4	3	Chemistry	4	3
Biology	3 (or 2)	3	Biology	3 (or 2)	3
Geology		3	Geology		3
or, in place of Geology, a subject in			or, in place of Geology, a subject in		
Physics, or			Physics, or		
Mathematics, or			Mathematics, or		
Engineering			Engineering		

Also, in the Third Year, six program hours of elective work for each term, of which three hours in each term shall be in language, literature, or mental and moral science (see foot-note, page 77).

Fourth Year

Biology 7 (three program hours); also, three hours for each term, to be chosen from the group of mental and moral science (see foot-note, page 77); and nine hours of elective work for each term, of which three for each term shall be in language, literature, or mental and moral science.

* The order of subjects in these courses may be altered in consequence of a probable revision of the program for the year 1910-11.

CHEMICAL COURSE*

MAJOR INSTRUCTOR, PROF. F. W. DURKEE

First Year, alike for all science courses. See page 105

Second Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
Chemistry	2	3	Chemistry	3	3
Chemistry	4	3	Chemistry	4	3
Physics	31-2	3	Physics	31-3	3
Physics	31-4	3	Physics	31-4	3
German	3	3	German	3	3
or French			or French		
Physical Training			Physical Training		1

Third Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
Chemistry	5	3	Chemistry	5	3
Chemistry	9	1	Chemistry	7	2
Chemistry	10	4½	Chemistry	10	4½
Biology	1	3	Biology	1	3
Mineralogy		3	Mineralogy		3

Fourth Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
Geology		3	Geology		3
Chemistry	11	3	Chemistry	8	2
			Chemistry	11	3

Also, for the Fourth Year, six program hours of free elective for the first term, and three for the second; and three program hours for each term, to be chosen from the group of mental and moral science (see foot-note, page 77).

* See foot-note on opposite page.

MEDICAL PREPARATORY COURSE†

MAJOR INSTRUCTOR, PROF. J. S. KINGSLEY

First Year, alike for all science courses. See page 105

Second Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
Chemistry	2	3	Chemistry	3	3
Biology	(2 or 3)	3	Biology	2 (or 3)	3
Physics	31-2	3	Physics	31-4	3
Physics	31-4	3	*German	3	3
*German	3	3	or French		
or French			Physical Training		1
Physical Training			One elective		3

Third Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
*German	3B	3	*German	3B	3
Philosophy	3	3	Biological German		3
Biology	3 (or 2)	3	Biology	3 (or 2)	3
Chemistry	10	4½	Chemistry	10	4½
One elective		3	One elective		3

Fourth Year

FIRST TERM	No.	Term Hours	SECOND TERM	No.	Term Hours
Biology	9	13	Biology	4M	13
Chemistry	14	13	Biology	5M	5

*If the equivalent of German 3 is presented for entrance, German 3B will constitute the language work for the Second Year, thus opening an additional elective in the Third Year.

† See the foot-note under General Science Course.

ENGINEERING SCHOOL

Faculty of the Engineering School

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT,	RESIDENCE*
	8 Professors Row
GARDNER C. ANTHONY, A.M., Sc.D., DEAN	14 Professors Row
<i>Professor of Technical Drawing. Acting Head of Department of Mechanical Engineering</i>	
PHILIP M. HAYDEN, A.B., SECRETARY	Dean Hall, 6
<i>Instructor in French and Registrar</i>	
CHARLES E. FAY, A.M., LITT.D.	92 Professors Row
<i>Wade Professor of Modern Languages</i>	
WILLIAM L. HOOPER, A.M., PH.D.	124 Professors Row
<i>Professor of Electrical Engineering</i>	
ALFRED C. LANE, A.M., PH.D. 1775 Massachusetts Ave., Cambridge	
<i>Pearson Professor of Geology and Mineralogy</i>	
FRANK B. SANBORN, C.E., M.S.	8 Buena Vista Park, Cambridge
<i>Professor of Civil Engineering</i>	
FRANK W. DURKEE, A.M.	38 Professors Row
<i>Professor of Inorganic Chemistry</i>	
EDWARD H. ROCKWELL, S.B.	133 Powder House Boulevard,
<i>Professor of Structural Engineering</i>	W. Somerville
CHARLES H. CHASE, S.B.	39 Lincoln St., Stoneham
<i>Professor of Steam Engineering</i>	
HARRY G. CHASE, B.S.	37 Sawyer Avenue
<i>Professor of Physics</i>	
SAMUEL C. EARLE, A.M.	45 Sawyer Avenue
<i>Professor of English</i>	

*The post office address is Tufts College, Mass., unless otherwise indicated.

- HENRY C. METCALF, A.B., PH.D. . . . 31 Sheffield Road, Winchester
Jackson Professor of Political Science
- FRANK G. WREN, A.M. 65 Talbot Avenue
Walker Professor of Mathematics
- SAMUEL L. CONNER, B.S. 8 Bellevue St.
Instructor in Railroad Engineering
- WILLIAM R. RANSOM, A.M. 29 Sawyer Avenue
Professor of Mathematics
- WILLIAM H. REED, JR., A.M. 81 Walnut Ave., Roxbury
Instructor in German and Spanish
- GEORGE F. ASHLEY 47 Avon St., Somerville
Assistant Professor of Technical Drawing
- EDWIN B. ROLLINS, B.S. 38 Capen St.
Instructor in Electrical Engineering
- CHARLES E. STEWART, S.B. 90 Bromfield Road
Assistant Professor of Mechanic Arts
- JAMES I. TUCKER, B.S., LL.B. 45 Sawyer Avenue
Assistant Professor of Civil Engineering
- PHILIP HOWARD COBB, A.B., PH.D. Dean Hall, 5
Assistant Professor of Organic and Physical Chemistry
- HERBERT M. MORLEY, B.S., M.S. Talbot Ave.
Instructor in Physics
- MELVILLE S. MUNRO, B.S. 101 Talbot Avenue
Instructor in Electrical Engineering
- FRANK E. SEAVEY, A.B. 44 Teele Ave., W. Somerville
Instructor in English
- RICHARD C. SMITH, B.S. 31 Dudley St., Medford
Instructor in Structural Engineering
- ALEXANDER DILLINGHAM, A.M. Paige Hall, 3
Instructor in Mathematics
- HOWARD J. SAVAGE, A.M. West Hall, 17
Instructor in English

- CARL L. SVENSEN, B.S. 46 Hillsdale Road
Instructor in Mechanical Engineering
- RAY W. CLOUGH, A.M. East, 10
Instructor in Chemistry
- CONRAD A. ADAMS, B.S. 101 Talbot Ave.
Instructor in Mechanic Arts
- EDWARD H. CROLL, PH.B. 96 Packard Ave., W. Somerville
Assistant in Drawing
- OSCAR MARTIN West, 7
Instructor in Physical Training and Director of the Gymnasium

OTHER OFFICERS

- HERBERT TRUE BROWN* Tufts College
Bursar
- EUGENE EVERETT SHEPARD W. Medford
Acting Bursar
- FRED W. SEAVEY 44 Teele Ave., W. Somerville
Assistant in the Office of the Dean
- FREDERIC A. BRUCE 120 Curtis St.
Superintendent of Buildings

COMMITTEE ON PROMOTIONS

Dean Anthony, *Chairman*; Professors Hooper, Durkee, Ransom, and Stewart.

COMMITTEE ON CURRICULUM

Dean Anthony, *Chairman*; Professors Hooper, Sanborn, Durkee, Rockwell, C. H. Chase, and Earle.

* Absent on leave.

Courses of Instruction

The School offers courses of four years in CIVIL ENGINEERING, MECHANICAL ENGINEERING, ELECTRICAL ENGINEERING, and CHEMICAL ENGINEERING, each leading to the degree of Bachelor of Science. These courses are arranged to give considerable freedom of election.

While much of the instruction is given in engineering subjects, the first aim of the School is the development of a broad college training. An effective correlation of the work of the several courses serves to promote a greater degree of unity and to secure an educational result both scientific and cultural.

One hundred and forty term hours* are required for graduation, this being the equivalent of about fifty-two hours of work per week, including the time for recitations, laboratory work, and preparation. A grade of C or higher must be attained in at least seventy term hours. The figure following the name of the subject in the tables below represents the number of term hours assigned to that subject.

The subjects of instruction in the Freshman year given below, are alike and those for the three following years are tabulated under the following heads: Civil Engineering, with option in Structural Engineering; Mechanical Engineering; Electrical Engineering; Chemical Engineering. The system of numbering and details of these courses are published on pages 128 ff. The subjects are printed in their numerical order.

FRESHMAN YEAR

[Alike for all courses.]

FIRST TERM			SECOND TERM		
11-1	English	3	11-2	English	3
	†French or }			†French or }	
	†German }	3		†German }	3
21-1	Drawing	3	21-1	Drawing	2
25-1	Mechanic Arts	2	21-5	Descriptive Geometry	3
29-1	Mathematics	3	25-1	Mechanic Arts	1
29-2	Mathematics	3	29-3	Mathematics	3
	Physical Training	½	31-1	Physics	3
				Physical Training	½

*A term hour signifies one recitation per week requiring about two hours of preparation, or one laboratory period of three hours.

†As the course to be pursued in modern language is dependent on the preparation of each student, definite instruction for the selection thereof is given on pages 131 to 133.

CIVIL ENGINEERING

The first two years of the course in civil engineering include the fundamentals of an engineering education — mathematics, drawing, physics, chemistry, English, and modern languages. The last two years include the elements of general engineering — applied mechanics, railroad engineering, structural engineering, hydraulics, and sanitary engineering. Other studies are available as electives, so that the student has opportunity to specialize somewhat in his Junior and Senior years; but the aim of the course in civil engineering is to provide a general engineering education, broad and comprehensive, which will enable its graduates to advance rapidly in numerous fields of professional work.

In the Senior year an option is offered in structural engineering with the subjects tabulated on the opposite page.

FRESHMAN YEAR—alike for all courses.

SOPHOMORE YEAR

FIRST TERM

21-7	Drawing	2
29-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	$\frac{1}{2}$

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-11	Mechanism	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-2	Surveying	2
	Physical Training	$\frac{1}{2}$

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3
25-5	Mechanic Arts	2

CIVIL ENGINEERING

JUNIOR YEAR

FIRST TERM

35-2	Qualitative Analysis	2
41-11	Railroad Surveying	2
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1
45-9	Mechanics Problems	2
51-1	Steam Engine	3

Electives

11-	English	
17-1	Spanish	3
21-12	Mechanism	2
25-7	Machine Shop	2
	Mathematics	
31-5	Electricity and Magnetism	3
41-62	Contracts	2

SECOND TERM

41-13	Railroad Engineering	3
41-43	Hydraulic Measurements	2
45-2	Applied Mechanics	3
47-1	Roofs and Bridges	3
47-5	Structural Design	2

Electives

11-	English	
17-1	Spanish	3
	Mathematics	
41-21	Highways	2
41-51	Fire Protection Engineering	2
51-3	Thermodynamics	3
61-3	Dynamo-Electric Machinery	3

SENIOR YEAR

FIRST TERM

41-14	Railroad Engineering	3
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3
81-1	Political Economy	3

Electives

11-	English	
	Mathematics	
41-31	Geodesy	2
41-95	Civil Engineering Topics	2
47-6	Structural Design	2

SECOND TERM

41-45	Hydraulic Engineering	3
41-99	Thesis	3-5

Electives

	Mathematics	
41-17	Railroads—Economic Location	3
47-2	Theory of Structures	3
47-9	Bridge Design	2
61-3	Dynamo-Electric Machinery	3
66-5	Political Economy	3
66-16	Political Economy	3

SENIOR YEAR OPTION.—STRUCTURAL ENGINEERING

FIRST TERM

41-14	Railroad Engineering	3
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3
47-6	Structural Design	2
81-1	Political Economy	3

Electives

11-	English	
	Mathematics	
41-31	Geodesy	2
41-95	Civil Engineering Topics	2

SECOND TERM

41-45	Hydraulic Engineering	3
47-2	Theory of Structures	3
47-9	Bridge Design	2
47-99	Thesis	3-5

Electives

	Mathematics	
41-17	Railroads—Economic Location	3
66-5	Political Economy	3
66-16	Political Economy	3

MECHANICAL ENGINEERING

The course of instruction in mechanical engineering relates particularly to machinery; its design, construction, and operation. The first two years are devoted to the preparatory studies common to all engineering courses, and include mathematics, physics, chemistry, drawing, and language, all of which have an important bearing upon the successful pursuit of the more technical subjects. Technical drawing and descriptive geometry receive much attention during the first year, and are more completely developed in the advanced work in mechanism and design.

In the last two years the technical work of the course is developed. It includes mechanics, both theoretical and applied, chemical analysis, and the properties of engineering materials, particularly iron and steel. The laboratory practice includes work in the physical, chemical, electrical, mechanical, and steam-engineering laboratories. In machine design each student prepares complete working drawings of some machine, or part of a machine. Shop work is carried through five terms, and includes carpentry, wood-turning, moulding, pattern making, forging, hand and machine tool-work.

The systematic study of steam and its application occupies a considerable part of the Junior and Senior years. The principles involved in the generation and application of power, the management of boilers and engines, the setting of valves and use of the indicator, are carefully considered. This is followed by work in thermodynamics, including the mechanical theory of heat and the properties of steam and gases. Steam engineering includes the study of the steam engine, compound and multiple expansion, and boilers of various types; determination of proportions for developing a required power; computation of sizes required for strength and endurance; the effect and balance of reciprocating parts, and the various types of valve motions. Engine and boiler testing constitute an important part of this course.

MECHANICAL ENGINEERING

FRESHMAN YEAR—alike for all courses.

SOPHOMORE YEAR

FIRST TERM

21-7	Drawing	2
29-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	$\frac{1}{2}$

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-11	Mechanism	2
25-5	Mechanic Arts	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
	Physical Training	$\frac{1}{2}$

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3
41-2	Surveying	2

JUNIOR YEAR

FIRST TERM

21-12	Mechanism	2
25-7	Mechanic Arts	2
31-5	Electricity and Magnetism	3
35-2	Qualitative Analysis	2
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1
51-1	Steam Engine	3

Electives

11-	English	
17-1	Spanish	3
	Mathematics	
31-6	Electrical Laboratory	2
41-62	Contracts	2
45-9	Mechanics Problems	2

SECOND TERM

21-21	Machine Design	2
25-9	Mechanic Arts	2
45-2	Applied Mechanics	3
51-3	Thermodynamics	3
51-21	Mechanical Engineering Laboratory	2

Electives

11-	English	
17-1	Spanish	3
	Mathematics	
47-1	Roofs and Bridges	3
47-5	Structural Design	2
61-1	Electrical Laboratory	2
61-3	Dynamo-Electric Machinery	3

SENIOR YEAR

FIRST TERM

21-22	Machine Design	2
51-5	Valve Gears	2
51-7	Steam Engineering	3
51-22	Mechanical Engineering Laboratory	2
81-1	Political Economy	3

Electives

11-	English	
	Mathematics	
45-3	Structural Mechanics	3
51-95	Mechanical Engineering Topics	2
61-5	Alternating Current Machinery	3
61-21	Dynamo Design, D. C.	3

SECOND TERM

41-45	Hydraulic Engineering	3
51-9	Steam Engineering	3
51-23	Mechanical Engineering Laboratory	2
51-99	Thesis	3-5

Electives

	Mathematics	
41-51	Fire Protection Engineering	2
61-3	Dynamo-Electric Machinery	3
61-6	Alternating Current Machinery	3
66-5	Political Economy	3
66-16	Political Economy	3

ELECTRICAL ENGINEERING

The aim of this course is to lay a broad foundation of Electrical Science upon which the future technical attainments of the electrical engineer may rest.

In common with the other engineering courses the first years are largely devoted to the study of physical science and mathematics and the attempt is made to familiarize the student with both the analytical and graphical methods of treating physical problems. The purely electrical work extends throughout the junior and senior years; that in the junior year being devoted to the more elementary theory, and the practice of the simpler tests and measurements, while that in the senior year is largely directed to the study of alternating currents and electrical machinery and to the more complicated tests of the alternating current and dynamo laboratories.

Throughout the course much attention is paid to the numerical solution of electrical problems, as it is believed that in no other way can theory and principles be so quickly and so clearly comprehended. A considerable amount of time is given to the design of electrical apparatus and machinery and many students during their course construct or assist in the construction of some instrument or piece of electrical machinery of commercial finish and dimensions.

The graduates of this course are advised to spend a couple of years in the apprenticeship courses or testing departments of the large electrical manufacturing companies in order that they get an intimate practical acquaintance with electrical apparatus and experience in handling and operating heavy machinery.

ELECTRICAL ENGINEERING

FRESHMAN YEAR—alike for all courses.

SOPHOMORE YEAR

FIRST TERM

21-7	Drawing	2
29-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	½

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-11	Mechanism	2
25-5	Mechanic Arts	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
	Physical Training	½

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3
41-2	Surveying	2

JUNIOR YEAR

FIRST TERM

21-12	Mechanism	2
31-5	Electricity and Magnetism	3
31-6	Electrical Laboratory	2
35-2	Qualitative Analysis	2
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1
51-1	Steam Engine	3

Electives

11-	English	
17-1	Spanish	3
25-7	Mechanic Arts	2
	Mathematics	
41-62	Contracts	2

SECOND TERM

21-21	Machine Design	2
45-2	Applied Mechanics	3
61-1	Electrical Laboratory	2
61-3	Dynamo-Electric Machinery	3

Electives

11-	English	
17-1	Spanish	3
	Mathematics	
47-1	Roofs and Bridges	3
47-5	Structural Design	2
51-3	Thermodynamics	3

SENIOR YEAR

FIRST TERM

61-5	Alternating Current Machinery	3
61-7	Electrical Laboratory	2
61-21	Dynamo Design D. C.	3
61-11	Alternating Currents	3
81-1	Political Economy	3

Electives

11-	English	
21-22	Machine Design	2
	Mathematics	
35-9	Gas Analysis	1
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3

SECOND TERM

41-45	Hydraulic Engineering	3
61-6	Alternating Current Machinery	3
61-7	Electrical Laboratory	2
61-99	Thesis	3-5

Electives

	Mathematics	
47-2	Theory of Structures	3
61-22*	Dynamo Design, A.C.	3
61-15	Electrical Engineering	3
61-17	Telephone and Telegraph	3
61-95	Electrical Topics	3
66-5	Political Economy	3
66-16	Political Economy	3

* Not given in 1909-10.

CHEMICAL ENGINEERING

The course in chemical engineering covers a period of four years, and leads to the degree of Bachelor of Science in Chemical Engineering.

The subjects in this course have been arranged to give the training in mathematics, physics, chemistry, and mechanical and electrical engineering that will assist the graduates of the department in solving the mechanical, electrical and chemical problems that present themselves when chemistry is applied in practical ways. Subjects intended for general training, the greater part of the pure mathematics, and the less technical engineering subjects have purposely been introduced early in the course. This arrangement allows much time for the study of subjects in chemistry and advanced engineering in the last two years. The mathematical, physical, and general engineering subjects, as well as subjects that are intended for general culture, correspond, for the most part, to those of the course in mechanical and electrical engineering.

In chemistry the subjects are numerous enough to train the student thoroughly in theoretical and descriptive inorganic and organic chemistry, to give him a working knowledge of the different branches of chemical analysis, and to make him familiar with many of the practical applications of chemistry. The chemical and engineering subjects are taught, so far as it is possible, in the laboratories, and excursions are made from time to time to plants where technical chemical operations are performed.

Young men who graduate from the course in chemical engineering find employment in constructing and operating plants where chemistry is applied commercially, such as gas-works, dye-works, bleacheries, paper and pulp mills, acid and alkali manufactories.

CHEMICAL ENGINEERING

FRESHMAN YEAR—alike for all courses.

SOPHOMORE YEAR

FIRST TERM

21-7	Drawing	2
29-4	Mathematics	3
31-2	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
41-1	Surveying	2
	Physical Training	½

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3

SECOND TERM

21-11	Mechanism	2
25-5	Mechanic Arts	2
29-5	Mathematics	3
31-3	Physics	3
31-4	Physical Laboratory	2
35-1	General Chemistry	3
	Physical Training	½

Electives

11-	English	
13-	French	3
	German	3
17-1	Spanish	3
41-2	Surveying	2

JUNIOR YEAR

FIRST TERM

31-5	Electricity and Magnetism	3
35-2	Qualitative Analysis	2
35-4	Quantitative Analysis	3
35-10	Organic Chemistry	4
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1

Electives

11-	English	
17-1	Spanish	3
21-12	Mechanism	2
25-7	Mechanic Arts	2
	Mathematics	
41-62	Contracts	2

SECOND TERM

35-3	Qualitative Analysis	2
35-4	Quantitative Analysis	3
35-10	Organic Chemistry	4
45-2	Applied Mechanics	3
61-3	Dynamo-Electric Machinery	3

Electives

11-	English	
17-1	Spanish	3
	Mathematics	
47-1	Roofs and Bridges	3
47-5	Structural Design	2

SENIOR YEAR

FIRST TERM

35-5	Quantitative Analysis	3
35-9	Gas Analysis	1
35-15	Applied Chemistry	2
51-1	Steam Engine	3
64-1	Mineralogy	3
81-1	Political Economy	3

Electives

11-	English	
25-7	Machine Shop	2
	Mathematics	
35-11	Theoretical and Advanced Inorganic Chemistry	3
41-41	Sanitary Engineering	3
45-3	Structural Mechanics	3
54-	Geology	3

SECOND TERM

35-5	Quantitative Analysis	3
35-7	Fire Assay	2
35-8	Metallurgy	2
35-15	Applied Chemistry	2
35-99	Thesis	3-5

Electives

	Mathematics	
35-11	Theoretical and Advanced Inorganic Chemistry	3
41-45	Hydraulic Engineering	3
47-2	Theory of Structures	3
47-5	Structural Design	2
51-21	Mechanical Engineering Laboratory	2
54-	Geology	3

TABULAR PROGRAM, **FIRST** HALF-YEARThe suffixed *a*, *b*, *c*, *d*, signify divisions

MONDAY

	8:45	9:45	10:45	11:45	2 to 5
SENIOR	81-1	41-95 51-95 61-7 <i>a</i>	41-14 61-7 <i>a</i>	45-3 61-7 <i>a</i>	35-5 51-22 61-7 <i>b</i>
JUNIOR	35-10 45-1 <i>a</i> 51-1 <i>b</i>	11-3 <i>b</i> 45-1 <i>b</i> 51-1 <i>a</i>	17-1 25-7 <i>b</i>	11-3 <i>a</i> 25-7 <i>b</i> 41-62	35-4 45-12 <i>a</i> 41-11 <i>b</i>
SOPH	31-4 <i>a</i> 41-1 <i>b</i>	11-3 <i>b</i> 31-4 <i>a</i> 41-1 <i>b</i>	13-3 17-1 31-4 <i>a</i> 41-1 <i>b</i>	11-3 <i>a</i>	21-7 <i>b</i> 41-1 <i>c</i>
FRESH	29-2 <i>d</i> 21-1 <i>b</i>	13-1 15-1 21-1 <i>b</i>	21-1 <i>b</i>	29-2 <i>b</i> 29-2 <i>c</i>	21-1 <i>a</i> 25-1 <i>c</i>

WEDNESDAY

SENIOR	81-1	61-7 <i>a</i>	35-15 41-14 61-7 <i>a</i>	45-3 61-7 <i>a</i>	35-5 61-21
JUNIOR	35-10 45-1 <i>a</i> 51-1 <i>b</i>	45-1 <i>b</i> 51-1 <i>a</i>	17-1 25-7 <i>b</i>	45-9 25-7 <i>b</i>	21-12 45-12 <i>b</i>
SOPH	31-4 <i>a</i> 41-1 <i>b</i>	31-4 <i>a</i> 41-1 <i>b</i>	13-3 17-1 31-4 <i>a</i> 41-1 <i>b</i>	35-1 <i>a</i> , <i>b</i>	35-1 <i>b</i> 41-1 <i>c</i>
FRESH	29-2 <i>d</i> 25-1 <i>b</i>	13-1 15-1 25-1 <i>b</i>	25-1 <i>b</i>	29-2 <i>b</i> 29-2 <i>c</i>	21-1 <i>a</i> 25-1 <i>c</i>

FRIDAY

SENIOR	81-1	41-95 51-95 61-21	35-15 41-14 61-21	45-3 61-21	35-5 51-22 61-7 <i>b</i>
JUNIOR	35-10 45-1 <i>a</i> 51-1 <i>b</i>	11-3 <i>b</i> 45-1 <i>b</i> 51-1 <i>a</i>	11-3 <i>a</i> 17-1 25-7 <i>b</i> 41-62	45-9 25-7 <i>b</i>	35-4 45-12 <i>c</i>
SOPH		11-3 <i>b</i>	11-3 <i>a</i> 13-3 17-1	35-1 <i>a</i> , <i>b</i>	35-1 <i>a</i> 21-7 <i>b</i>
FRESH	29-2 <i>d</i> 25-1 <i>b</i>	13-1 15-1 25-1 <i>b</i>	25-1 <i>b</i>	29-2 <i>b</i> 29-2 <i>c</i>	21-1 <i>a</i>

TABULAR PROGRAM, **FIRST** HALF-YEARThe suffixed *a*, *b*, *c*, *d*, signify divisions

TUESDAY

	8:45	9:45	10:45	11:45	2 to 5
SENIOR	35-11 41-41 51-7	47-6 61-5	47-6 51-5	47-6 51-5 61-11	21-22 35-11 41-31
JUNIOR	31-5 <i>a</i> 31-5 <i>b</i>	25-7 <i>a</i> 31-6 <i>a</i> 35-2 <i>b</i> 41-11 <i>a</i>	25-7 <i>a</i> 31-6 <i>a</i> 35-2 <i>b</i> 41-11 <i>a</i>	25-7 <i>a</i> 31-6 <i>a</i> 35-2 <i>b</i> 41-11 <i>a</i>	35-10 31-6 <i>b</i> 35-2 <i>a</i>
SOPH	15-3 21-7 <i>a</i>	21-7 <i>a</i> 29-4 <i>c</i>	31-2 <i>a</i> 31-2 <i>b</i>	29-4 <i>a</i> 29-4 <i>b</i>	31-4 <i>b</i> 41-1 <i>a</i>
FRESH	13-2 <i>b</i> 15-2 29-1 <i>a</i>	11-1 <i>c</i> 13-1 29-1 <i>d</i>	13-2 <i>a</i> 29-1 <i>b</i> 29-1 <i>c</i>	11-1 <i>a</i>	21-1 <i>b</i> 25-1 <i>a</i>

THURSDAY

SENIOR	35-11 41-41 51-7	61-5 47-6	51-5 47-6	61-11 51-5 47-6	21-22 41-31
JUNIOR	31-5 <i>a</i> 31-5 <i>b</i>	25-7 <i>a</i> 31-6 <i>a</i> 35-2 <i>b</i> 41-11 <i>a</i>	25-7 <i>a</i> 31-6 <i>a</i> 35-2 <i>b</i> 41-11 <i>a</i>	25-7 <i>a</i> 31-6 <i>a</i> 35-2 <i>b</i> 41-11 <i>a</i>	31-6 <i>b</i> 35-2 <i>a</i> 45-12 <i>d</i>
SOPH	15-3 21-7 <i>a</i>	21-7 <i>a</i> 29-4 <i>c</i>	31-2 <i>a</i> 31-2 <i>b</i>	29-4 <i>a</i> 29-4 <i>b</i>	31-4 <i>b</i> 41-1 <i>a</i>
FRESH	13-2 <i>b</i> 15-2 29-1 <i>a</i>	13-1 29-1 <i>d</i>	13-2 <i>a</i> 29-1 <i>b</i> 29-1 <i>c</i>	11-1 <i>b</i>	21-1 <i>b</i> 25-1 <i>a</i>

SATURDAY

SENIOR	41-41 51-7	61-5		61-11	
JUNIOR	31-5 <i>a</i> 31-5 <i>b</i>	11-7 35-4 41-11 <i>b</i>	21-12 35-4 41-11 <i>b</i>	35-4 41-11 <i>b</i>	
SOPH	15-3 21-7 <i>a</i>	11-7 21-7 <i>a</i> 29-4 <i>c</i>	31-2 <i>a</i> 31-2 <i>b</i>	29-4 <i>a</i> 29-4 <i>b</i>	
FRESH	13-2 <i>b</i> 15-2 29-1 <i>a</i>	29-1 <i>d</i>	13-2 <i>a</i> 29-1 <i>b</i> 29-1 <i>c</i>	11-1 <i>a</i> , <i>b</i> , <i>c</i>	

TABULAR PROGRAM, **SECOND** HALF-YEARThe suffixed *a*, *b*, *c*, *d*, signify divisions

MONDAY

	8:45	9:45	10:45	11:45	2 to 5
FRESH SOPH JUNIOR SENIOR	41-45 ^a 51-9 61-95	41-45 ^b	41-17	61-15	35-5 47-9 51-23 61-7 ^b
	35-10 45-2 ^a	45-2 ^b 51-3	17-1	47-1	21-21 ^a 35-4 41-43
	31-4 ^a 41-2 ^b	31-4 ^a 41-2 ^b	13-4 17-1 31-4 ^a 41-2 ^b	25-5 ^{a, b}	25-5 ^b 41-2 ^c
	29-3 ^a 29-3 ^b	13-1 22-1 21-5 ^a	29-3 ^c 29-3 ^d 21-5 ^b	21-5 ^c 21-5 ^d	21-1 ^b

WEDNESDAY

FRESH SOPH JUNIOR SENIOR	35-15 41-45 ^a 51-9 61-95	41-45 ^b	35-8 41-17	61-15	35-5 47-9 61-7 ^b
	35-10 45-2 ^a	45-2 ^b 51-3	11-8 17-1	47-1	35-10 41-21 51-21
	31-4 ^a 41-2 ^b	31-4 ^a 41-2 ^b	13-4 17-1 31-4 ^a 41-2 ^b	35-1 ^{a, b}	25-5 ^a 35-1 ^b
	29-3 ^a 29-3 ^b	13-1 22-1 21-5 ^a	29-3 ^c 29-3 ^d 21-5 ^b	21-5 ^c 21-5 ^d	21-1 ^a

FRIDAY

FRESH SOPH JUNIOR SENIOR	35-15 41-45 ^a 51-9 61-95	41-45 ^b	35-8 41-17	61-15	35-5 61-7 ^a
	35-10 45-2 ^a	45-2 ^b 51-3	11-8 17-1	47-1	21-21 ^a 35-4 41-43
	21-11	21-11	13-4 17-1	35-1 ^{a, b}	35-1 ^a 41-2 ^c
	29-3 ^a 29-3 ^b	13-1 22-1 21-5 ^a	29-3 ^c 29-3 ^d 21-5 ^b	21-5 ^c 21-5 ^d	21-1 ^a 25-1 ^b

TABULAR PROGRAM, SECOND HALF-YEAR

The suffixed *a*, *b*, *c*, *d* signify divisions

TUESDAY

	8:45	9:45	10:45	11:45	2 to 5
SENIOR	35-11 47-2 61-17 66-5	66-16	61-6		35-11
JUNIOR	61-3		41-21		61-7 <i>a</i>
SOPH	11-4 22-3 29-5 <i>a</i> 29-5 <i>b</i>	41-13 61-1 <i>b</i> 11-6 29-5 <i>c</i>	61-1 <i>b</i> 31-3 <i>a</i> 31-3 <i>b</i>	61-1 <i>b</i> 21-11	35-3 47-5 51-21
FRESH	11-2 <i>a</i> 13-2 <i>b</i>	31-1	11-2 <i>b</i> 13-2 <i>a</i> 15-2		31-4 <i>b</i> 41-2 <i>a</i> 25-1 <i>c</i>

THURSDAY

SENIOR	35-11 47-2 61-17 66-5	66-16	61-6		
JUNIOR	61-3	21-21 <i>b</i> 25-9 41-13 61-1 <i>a</i>	21-21 <i>b</i> 25-9 41-51 61-1 <i>a</i>	21-21 <i>b</i> 25-9 41-51 61-1 <i>a</i>	51-23 35-3 47-5 61-1 <i>b</i>
SOPH	11-4 22-3 29-5 <i>a</i> 29-5 <i>b</i>	11-6 29-5 <i>c</i>	31-3 <i>a</i> 31-3 <i>b</i>	21-11	31-4 <i>b</i> 41-2 <i>a</i>
FRESH	13-2 <i>b</i>	31-1	11-2 <i>c</i> 13-2 <i>a</i> 15-2	13-1	21-1 <i>b</i> 25-1 <i>a</i>

SATURDAY

SENIOR	47-2 61-17 66-5	66-16	61-6		
JUNIOR	61-3	21-21 <i>b</i> 25-9 35-4 41-13 61-1 <i>a</i>	21-21 <i>b</i> 25-9 35-4 41-51 61-1 <i>a</i>	21-21 <i>b</i> 25-9 35-4 41-51 61-1 <i>a</i>	
SOPH	22-3 29-5 <i>a</i> 29-5 <i>b</i>	11-6 29-5 <i>c</i>	31-3 <i>a</i> 31-3 <i>b</i>		
FRESH	13-2 <i>b</i>	31-1	13-2 <i>a</i> 15-2	11-2 <i>a</i> , <i>b</i> , <i>c</i>	

Index to Subjects

No.	Term Hours	SUBJECT	No.	Term Hours	SUBJECT
11 ENGLISH			35 CHEMISTRY		
11-1	3	English (First Term)	35-1	*6	General Inorganic Chemistry
11-2	3	English (Second Term)	35-2	2	Qualitative Analysis
11-3	2	Argumentation	35-3	2	Qualitative Analysis, Advanced
11-4	2	Narration	35-4	*6	Quantitative Analysis
11-6	2	General English Literature	35-5	*6	Quantitative Analysis, Technical
11-7	2	Advanced English Literature	35-7	2	Fire Assay
11-8	2	Technical Exposition	35-8	2	Metallurgy of Iron and Steel
11-9	2	Technical Theses	35-9	1	Technical Gas Analysis
13 FRENCH			35-10	8	Organic Chemistry
13-1	*6	French	35-11	*6	Theoretical and Advanced Inorganic Chemistry
13-2	*6	French	35-15	†4	Applied Chemistry
13-3	3	French	35-99	3-5	Chemical Engineering Thesis
13-4	3	French	41 CIVIL ENGINEERING		
13-6	3	French	41-1	2	Surveying
15 GERMAN			41-2	2	Surveying
22-1	*6	German	41-11	2	Railroad Surveying
15-2	*6	German	41-13	3	Railroad Engineering
22-3	*6	German	41-14	3	Railroad Engineering
17 SPANISH			41-17	3	Railroad Engineering, Economics
17-1	*6	Spanish	41-21	2	Highways and Cements
21 DRAWING			41-31	2	Geodesy
21-1	†5	Drawing	41-41	3	Sanitary Engineering
21-5	3	Descriptive Geometry	41-43	2	Hydraulic Measurements
21-7	2	Drawing	41-45	3	Hydraulic Engineering
21-11	2	Mechanism, Elementary	41-51	2	Fire Protection Engineering
21-12	2	Mechanism, Advanced	41-62	2	Contracts
21-21	2	Machine Design, Elementary	41-95	2	Civil Engineering Topics
21-22	2	Machine Design, Advanced	41-99	3-5	Civil Engineering Thesis
25 MECHANIC ARTS			45 APPLIED MECHANICS		
25-1	§3	Pattern Making	45-1	3	Applied Mechanics
25-5	2	Forging	45-2	3	Applied Mechanics
25-7	2	Hand and Machine Tools	45-3	3	Structural Mechanics
25-9	2	Machine Tools	45-9	2	Mechanics Problems
29 MATHEMATICS			45-12	1	Applied Mechanics Laboratory
29-1	3	Trigonometry and Algebra	47 STRUCTURAL ENGINEERING		
29-2	3	Analytical Geometry and Algebra	47-1	3	Roofs and Bridges
29-3	3	Elementary Calculus	47-2	3	Theory of Structures
29-4	3	Intermediate Calculus	47-5	2	Structural Design, Elementary
29-5	3	Advanced Calculus	47-6	2	Structural Design, Advanced
31 PHYSICS			47-9	2	Bridge Design
31-1	3	Mechanics and Sound	47-99	3-5	Structural Engineering Thesis
31-2	3	Electricity and Magnetism, and Light	51 MECHANICAL ENGINEERING		
31-3	3	Mechanics and Heat	51-1	3	Steam Engine
31-4	†4	Physical Laboratory	51-3	3	Thermodynamics
31-5	3	Electricity and Magnetism	51-5	2	Valve Gears
31-6	2	Electrical Laboratory	51-7	3	Engine Design
			51-9	3	Steam Engineering
			51-21	2	Mechanical Engineering Laboratory
			51-22	2	Mechanical Engineering Laboratory

*Two terms, three term hours each.

†Two terms; first term, three term hours; second term, two term hours.

‡Two terms, two term hours each.

||Two terms, four term hours each.

§Two terms; first term, two term hours; second term, one term hour.

51 Mechanical Engineering (Continued)

- 51-23 2 Mechanical Engineering Laboratory
 51-95 2 Mechanical Engineering Topics
 51-99 3-5 Mechanical Engineering Thesis

54 GEOLOGY**61 ELECTRICAL ENGINEERING**

- 61-1 2 Electrical Laboratory
 61-3 3 Dynamo-Electric Machinery
 61-5 3 Alternating Current Machinery
 61-6 3 Alternating Current Machinery
 61-7 ‡4 Dynamo Laboratory

‡ Two terms, two term hours each.

- 61-11 3 Alternating Currents
 61-15 3 Electrical Engineering
 61-17 3 Telephone and Telegraph
 61-21 3 Dynamo Design, D. C.
 61-22 3 Dynamo Design, A. C.
 61-95 3 Electrical Topics
 61-99 3-5 Electrical Engineering Thesis

64 MINERALOGY**81 POLITICAL ECONOMY**

- 81-1 3 Elements of Economics
 66-5 3 Money, Credit, and Banking
 66-16 3 Modern Labor Problems

Departments of Instruction

11 ENGLISH

The aim of the department of English is, first, to teach the student to think accurately and to give adequate written and spoken expression to his own experience; second, to broaden his outlook.

In addition to the class work, papers in other subjects will also be examined by the instructors in English, as a test of the student's ability to express himself correctly and clearly; and theses, as far as possible, will be subject to criticism by the instructors in English before they are finally accepted by the department for which they are written.

11-1 English. A study of the elemental forms of literary and scientific writing: description, exposition, directions, criticism, argument, and narration, with the ultimate aim of helping the student to think for himself. Reading of illustrative literature. *Three periods a week: one lecture, one recitation, and one ten-minute conference.*

First term. Three term hours.

PROFESSOR EARLE, MR. SAVAGE, and MR. SEAVEY

11-2 English. A study of actual problems in literary expression. Reading in general science and literature under the guidance of weekly lectures. *Three periods a week: one lecture; one recitation, and one ten-minute conference. Preparation, 11-1.*

Second term. Three term hours.

PROFESSOR EARLE, MR. SAVAGE, and MR. SEAVEY

11-3 English. Argumentative composition adapted to meet the special needs of engineers. *Three periods a week: two recitations and one ten-minute conference. Preparation, 11-2.*

First term. Two term hours.

MR. SAVAGE and MR. SEAVEY

11-4 English. An advanced subject in general composition, including the writing of daily themes and short stories. *Three periods a week: two recitations, and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours.

MR. SAVAGE and MR. SEAVEY

11-6 English. A brief survey of English literature and history, aiming to broaden the student's appreciation of what he may get from books, and to suggest ways in which the past throws light on the problems of the present. *Four periods a week: three lectures and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours.

MR. SAVAGE and MR. SEAVEY

11-7 English. Advanced English literature. A study of some author, period, or type. The definite work to be carried on will be outlined by the instructor in charge each June for the following term. *Two periods a week: one recitation and one twenty-minute conference. Preparation, 11-6.*

First term. Two term hours.

MR. SAVAGE and MR. SEAVEY

11-8 English. A detailed study of the most important problems of technical writing. *Four periods a week: two recitations and two ten-minute conferences. Preparation, 11-2.*

Second term. Two term hours.

PROFESSOR EARLE

11-9 English. An advanced subject in technical composition. No class meetings; each student writes papers from ten to fifty pages in length under the individual direction of the instructor. The subjects are taken, as far as possible, from technical work previously done by the student outside of college, or from special research. *One thirty-minute conference a week. Preparation, 11-8.*

First term. Two term hours.

PROFESSOR EARLE

MODERN LANGUAGES

Students who have fulfilled the entrance requirement in foreign language are required to pursue in the Freshman year a course in a modern language under the following conditions:

Those receiving credit in an ancient language only will enter French 13-1, and will be required to take French 13-2 in the Sophomore year.

Those receiving elementary credit in French or German only will continue that language during the Freshman year.

Those receiving credit for advanced French or German only may continue the language offered for one year, or begin the other, but in the latter case they will be required to continue it during the Sophomore year.

Those receiving elementary credit in both French and German may continue either language during the Freshman year.

Those receiving advanced credit in one language, and ele-

mentary credit in the other, may continue either for one year. They are recommended to select that in which elementary credit only is received. Those who receive advanced credit in French, and elementary credit in German, may, with the consent of the department, take Spanish in the Freshman year.

Those receiving elementary and advanced credit in both languages may take either for one year, or each for a half-year; or Spanish, with the consent of the department.

Extra Credit. *Any student receiving credits in language not needed for entrance, to the extent of two units, may apply, not later than the end of the Sophomore year, for an additional credit toward his degree of three term hours, which will be granted if his work has been satisfactory to the department.

*Any student receiving credits in language not needed for entrance, to the extent of six units (or four, consisting of Advanced French and Advanced German), may apply, not later than the end of the Sophomore year, for an additional credit toward his degree of six term hours, which will be granted if his work has been satisfactory to the department. These students may be excused from language work at mid-year, when in the judgment of the promotions committee the adjustment of their program makes it desirable; they will then receive three hours credit for the work of the first term, and six hours additional credit.

*Any student receiving credits in language not needed for entrance, to the extent of eight units, including one advanced modern language, may apply, not later than the end of the Sophomore year, for an additional credit toward his degree of nine term hours, which will be granted if his work has been satisfactory to the department. These students may be excused from language at mid-year, when in the judgment of the promotions committee the adjustment of their program makes it desirable; they will then receive three hours credit for the work of the first term, and nine hours additional credit.

* Principals and prospective students are informed that college credit for work done in the secondary school is given only upon examination, or after the student has satisfactorily continued the subject in College.

But in no case shall a student count more than eighteen term hours in foreign language towards his degree.

Any student of other national language than English who may be a candidate for admission, and who is able to speak French, German, Spanish, Italian, or Portuguese, will be given credit for this ability as an equivalent for the entrance requirement in Modern Language.

He may also offer it as a substitute for the regular modern language requirement for the degree of S.B. in Engineering, under the following conditions :

(1) That he shall have attained the ability to express himself fluently, and with a sufficient degree of accuracy, in English ; that he shall have passed the required subjects in English, and one elective in English composition.

(2) That he shall have passed a special examination in the language for which he is to receive credit.

13 FRENCH

The aim of the work in French is the acquisition of a knowledge of the language not only for its educational value in general but for its bearing on the student's mother tongue. The scientific reading is chosen, as far as possible, for its direct application to technical subjects which are being studied at the same time. Care and accuracy in translation are emphasized. Although no extensive attempt is made to give the student a ready speaking knowledge of the language, he is trained to understand it when spoken. Careful attention is paid to pronunciation, and to the acquisition of a vocabulary of every-day expressions and idioms which will enable him, in case of foreign residence, to acquire rapidly a correct and fluent command of the spoken tongue. Students are encouraged to do outside reading for their own pleasure, in addition to the classroom requirements. The college Library contains a large assortment of representative works suited for this purpose.

13-1 French. Elementary course. The essentials of grammar, with composition; Grandgent's Grammar; a French Reader; reading of short

works of modern authors in prose and verse. Open to Freshmen whose entrance language is Latin, Greek, or Advanced German. It must be followed by 13-2 in the Sophomore year. *First term, five recitations a week; second term, four recitations a week.*

First and second terms. Six term hours.

MR. HAYDEN

13-2 French. Reading of modern fiction, and scientific works related to the technical and scientific studies of the Freshman year. Review of grammatical principles; vocabulary practice. *Three recitations a week. Preparation, elementary entrance credit in French, or 13-1.*

First and second terms. Six term hours.

MR. HAYDEN

13-3 French. Selected works of the nineteenth century; scientific reading; composition; conversation. *Three recitations a week. Preparation, advanced entrance credit in French, or 13-2.*

First term. Three term hours.

MR. HAYDEN

13-4 French. Reading of selected types of French literature; composition; conversation. *Three recitations a week. Preparation, 13-2 or its equivalent.*

Second term. Three term hours.

MR. HAYDEN

13-6 French. Advanced reading of historical, critical, and dramatic works. *Three recitations a week. Preparation, 13-3 or its equivalent.*

Second term. Three term hours.

MR. HAYDEN

(13-6 French will not be given unless a reasonable number of thoroughly qualified students elect it.)

15 GERMAN

The aim and scope of the work in German are in general the same as in French, and the student is referred to the statement of that department.

22-1 German. Elementary course. The essentials of grammar; reading of modern prose; dictation and composition. Open to Freshmen who have received credit in Advanced French for admission. It must be followed by 15-2 in the Sophomore year. *Three recitations a week.*

First and second terms. Six term hours.

MR. REED

15-2 German. Review of grammatical principles, especially with reference to syntax. Reading of modern works, including one work dealing with a scientific subject. Dictation and composition. *Three recitations a week. Preparation 22-1 or Elementary German for admission.*

First and second terms. Six term hours.

MR. REED

22-3 German. (First term.) The rapid reading of modern prose in contemporary authors. (Second term.) Introduction to the classic

authors: Lessing, Minna von Barnhelm; Schiller, Die Jungfrau von Orleans; Goethe, Hermann and Dorothea. *Three recitations a week. Preparation, 15-2, or Advanced German for admission. Six term hours. Either half of the subject may be taken, counting as three term hours.*

PROFESSOR FAY

17 SPANISH

The aim of the single subject offered in Spanish is to enable the student to read without serious difficulty ordinary Spanish prose. Due attention is paid to the essentials of grammar as a means to this end, and to pronunciation. Simple English sentences are translated into Spanish. The importance of French as a preparation for this subject is emphasized.

17-1 Spanish. Elementary course. The essentials of grammar; reading of modern prose; practice in writing Spanish. Open to those who have received a grade of C or higher in French 13-2, 13-3 or 13-4. All others wishing to elect the subject should consult the instructor. *Three recitations a week.*

First and second terms. Six term hours.

MR. REED

21 DRAWING

The department of Drawing aims to give a broad and exact training in the language of graphics; to teach the principles of its construction, its technique, and the art of expression by this medium. It is designed to give the student such practice as shall enable him to use this language with fluency whenever and wherever it may serve better than a written or spoken language. The work of the department also includes practice in the use of graphics for the solution of problems relating to the theory of mechanism and its application to machine design.

21-1 Drawing. The course in Freshman Drawing comprises exercises in the proper use and care of drafting tools; numerous problems in geometrical construction; a thorough study of the principles of orthographic projection, freehand and mechanical perspective, isometric solids. Considerable time is devoted to the freehand sketching of simple parts of machinery and the careful completion of drawings from these sketches. Throughout the course special attention is given to lettering and the composition of titles. *First term, three periods a week; three hours each. Second term, two periods a week; three hours each.*

First and second terms. Five term hours.

ASSISTANT PROFESSOR ASHLEY and MR. CROLL

21-5 Descriptive Geometry is taught by recitations and the solution of a great number of problems. The problems are designed to correlate theory and practice. *Three recitations a week. Simultaneous with 21-1.*

Second term. Three term hours.

ASSISTANT PROFESSOR ASHLEY AND MR. SVENSEN

21-7 Drawing. A study of the technique of graphic expression and its application in giving complete and accurate information to the constructor. Detailed and assembly drawings are made from freehand sketches and other data, but nothing in the nature of a copy is permitted. The work is conducted according to the methods of progressive draftsmen, the greatest emphasis being laid on completeness and accuracy in the use of graphic language. *Two periods a week of two hours each. Preparation, 21-1.*

First term. Two term hours.

PROFESSOR ANTHONY AND MR. SVENSEN

21-11 Mechanism. An introductory course, conducted mainly by graphical methods, and dealing with the fundamental laws governing the velocity ratio and paths of mechanical movements and their application to velocity diagrams, simple types of gearing, and other modes of transmission. *Two recitations a week, or two periods of two hours drafting. Preparation, 21-1. Simultaneous with 31-3.*

Second term. Two term hours.

PROFESSOR ANTHONY and MR. SVENSEN

21-12 Mechanism. Advanced course, mathematical and graphical, dealing with the application of the principles of mechanism to various types of gearing and valve gears, together with the study of the more important application to modern machine tool and appliance. *Two recitations a week, or two periods of two hours drafting. Preparation, 21-11.*

First term. Two term hours.

PROFESSOR ANTHONY

21-21 Machine Design. The solution of simple problems in design, involving only the elementary principles of applied mechanics but requiring careful thought and close observation. A systematic training of the judgment is made of first importance. *Preparation, 21-7, 21-11, and 45-1. Two periods a week; three hours each.*

Second term. Two term hours.

PROFESSOR ANTHONY AND MR. SVENSEN

21-22 Machine Design. A continuation of 21-21 but necessitating a more complete consideration of the design of one representative type of machine. *Preparation, 21-21 and 45-2. Two periods a week; three hours each.*

First term. Two term hours.

PROFESSOR ANTHONY AND MR. SVENSEN

25 MECHANIC ARTS

Work in the shops is designed to give a practical knowledge of mechanical processes and of materials of construction. Instruction in hand and machine tool-work is given, following a graded series of exercises having in view the formation of habits of precision and the development of judgment essential to the engineer.

The work in this department maintains a close relation with the courses in drawing and design, much of the work in design being carried to completion in the shops from drawings prepared in the drafting-room. It is required of all engineering students during the Freshman year.

25-1 Pattern Making. Practice is given in the use of bench wood-working tools and the wood-turning lathe for the construction of simple patterns from working drawings. The principles and methods of foundry practice are taught at the same time. The course for the second term includes the construction of more complicated patterns and core-boxes, and the consideration of special problems involving the relation of pattern making to general engineering work. Visits are made to the shops of manufacturing plants. *First term, two periods a week; three hours each. Second term, one three-hour period.*

First and second terms. Three term hours.

ASSISTANT PROFESSOR STEWART AND MR. ADAMS

25-5 Forging. A short course in bending, drawing, upsetting, forming, and welding iron, and tool dressing, together with text-book work and recitations on the production of iron and steel. A study of their uses and value in engineering work. Visits are made to steel-producing plants. *Two periods a week; one three-hour period and one lecture.*

Second term. Two term hours.

ASSISTANT PROFESSOR STEWART AND MR. ADAMS

25-7 Hand and Machine Tools. A short course is given in work at the vise, followed by lathe work, which includes straight and taper turning and fitting, chucking, boring, reaming, and thread cutting; also drilling and planing, shaper and milling-machine work. *Two periods a week; three hours each.*

First term. Two term hours.

ASSISTANT PROFESSOR STEWART

25-9 Machine Tools. Further instruction in lathe work on steel and brass, the use of the boring mill, hardening and grinding, and the elements of tool making. The study of shop problems by visits to manufacturing

plants. Instruction is also given in the use of tools and fittings in piping.
Two periods a week; three hours each.

Second term. Two term hours.

ASSISTANT PROFESSOR STEWART

29 MATHEMATICS

The instruction in mathematics is arranged so that fundamental principles of trigonometry, analytics, and calculus may come as early as possible in the course, the more advanced parts of each subject being introduced later. A review of algebra runs through the first year in appropriate connection with topics in the other subjects. The prescribed work continues to the end of the Sophomore year, double time being given to mathematics in the first term of the Freshman year. Seniors and Juniors may elect higher courses in the College of Letters.

29-1 Trigonometry and Algebra. Methods of calculation; solution of triangles; use of logarithms and the slide rule; reduction of expressions involving radicals and trigonometric functions; combinations and probability. *Simultaneous with 29-2. Three hours a week.*

First term. Three term hours.

PROFESSOR RANSOM AND MR. DILLINGHAM

29-2 Analytical Geometry and Algebra. Graphical representation; simultaneous equations; quadratics; variation; the straight line, circle, ellipse, and hyperbola; locus problems. *Simultaneous with 29-1. Three hours a week.*

First term. Three term hours.

PROFESSOR RANSOM AND MR. DILLINGHAM

29-3 Elementary Calculus. Differentiation and integration of algebraic functions; problems in tangents, rates, maxima and minima, areas, etc.; logarithmic and trigonometric functions. *Three hours a week. Preparation, 29-1 and 29-2.*

Second term. Three term hours.

PROFESSOR RANSOM AND MR. DILLINGHAM

29-4 Intermediate Calculus. Drill in differentiation and integration; applications; trigonometric identities and equations. *Three hours a week. Preparation, 29-3.*

First term. Three term hours.

PROFESSOR RANSOM AND MR. DILLINGHAM

29-5 Advanced Calculus. Expansions; indeterminate forms; multiple

integration; spherical trigonometry; introduction to differential equations.

Three hours a week. Preparation, 29-4.

Second term. Three term hours.

PROFESSOR RANSOM AND MR. DILLINGHAM

31 PHYSICS

This science is presented, not as a series of detached subjects, but as a consistent body of doctrine in which mechanical principles hold throughout, from which all the various phenomena are deducible. In each branch there are frequent returns to these first principles.

In the laboratory, students are given a syllabus of the work for a guide. This syllabus is supplemented by Glazebrook's Physical Optics; Kaulrausch's Measurements; Stewart and Gee's Practical Physics, vols. 1 and 2; Glazebrook and Shaw's Practical Physics; Nichol's Laboratory Manual, vols. 1 and 2; and Watson's Practical Physics. In addition to the experimental and note-book work, many problems are solved.

31-1 Mechanics and Sound. This is introductory to all other subjects offered by the department. *Three periods a week, lectures and recitations.*

Second term. Three term hours.

PROFESSOR H. G. CHASE AND MR. MORLEY

31-2 Electricity and Magnetism, and Light. *Three periods a week, lectures and recitations.*

First term. Three term hours.

PROFESSOR H. G. CHASE AND MR. MORLEY

31-3 Mechanics and Heat. *Three periods a week.*

Second term. Three term hours.

PROFESSOR H. G. CHASE AND MR. MORLEY

31-4 Physical Laboratory. *Two periods a week; three hours each.*

First and second terms. Four term hours.

PROFESSOR H. G. CHASE AND MR. MORLEY

31-5 Electricity and Magnetism. Elementary mathematical treatment. *Three periods a week.*

First term. Three term hours.

PROFESSOR H. G. CHASE AND PROFESSOR HOOPER

31-6 Electrical Laboratory. Measurements. *Two periods a week; three hours each. Preparation 31-5, or simultaneous with 31-5.*

First term. Two term hours.

MR. ROLLINS AND MR. MUNRO

35 CHEMISTRY

35-1 General Inorganic Chemistry. An introductory course in theoretical and descriptive inorganic chemistry, with a thorough consideration of the simplest carbon compounds and principal technical processes. *Three periods a week, two lectures, one three hour laboratory period with conferences.*

First and second terms. Six term hours.

PROFESSOR DURKEE, ASSISTANT PROFESSOR COBB, AND ASSISTANTS

35-2 Qualitative Analysis for the detection of the metals, a course which includes the experimental development of schemes for the division of the metals into groups, the separation and detection of the metals in each group, — a study of all the chemical changes and analytical details, together with the correct analysis of six known solutions and thirteen unknown. *Two periods a week, three hours each, laboratory work and conference. Six lectures.*

First term. Two term hours. PROFESSOR DURKEE AND ASSISTANTS

35-3 Qualitative Analysis, Advanced, dealing with methods to effect solution of solids, the detection of mineral and common organic acids, the complete analysis of inorganic solids, including mixtures of salts, minerals, alloys, and slags. Three known and thirteen unknown are required, and thorough study of the chemical changes and conditions involved in the analyses. *Two periods a week, three hours each, laboratory work and conference.*

Second term. Two term hours. PROFESSOR DURKEE AND ASSISTANT

35-4 Quantitative Analysis. Theory and practice of gravimetric and volumetric analysis, including the determination of chlorine by the ordinary and Gooch crucible methods, iron and sulphur in furous ammonium sulphate, silica in a silicate, phosphorus in a phosphate, complete analysis of dolomite, and brass, preparation of strictly half-normal sodium hydroxide and hydro-chloric acid solutions, the volumetric analyses of soda ash and oxalic acid, the analysis of iron ore by the dichromate and permanganate methods, determination of chromium in chromite, of antimony by the iodine method, and silver by the sulpho-cyanate method. *Three periods a week, three hours each, laboratory work and conference.*

First and second terms. Six term hours. PROFESSOR DURKEE

35-5 Quantitative Analysis. Technical. Work varied somewhat to meet the needs of individual students. Course ordinarily comprises proximate analysis of coal, nitrogen in coal, Kjeldahl's method, complete analysis of boiler scale, mineral and sanitary analysis of water, determination of copper in ores by iodine and cyanide methods, of zinc by ferro-cyanide method, complete analysis of Babbitt metal, determination of lead in ores,

and manganese, sulphur, phosphorus, silicon and carbon in iron and steel. *Three periods a week, three hours each, laboratory work and conference.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-7 Fire Assay. A course which deals with the theory and practice of sampling and assaying gold and silver ores. *Two periods a week, three hours each, laboratory work and conference.*

Second term. Two term hours.

PROFESSOR DURKEE

35-8 Metallurgy of Iron and Steel. Considered largely from the chemical side, and includes the study of ores, fluxes, fuels, furnaces, and the other mechanical devices used in the commercial production of pig iron, wrought iron, and steel, together with the solution theory of iron and steel, heat treatment of steel, and production of malleable cast iron. *Two periods a week, one hour each. Lectures and recitations.*

Second term. Two term hours.

PROFESSOR DURKEE

35-9 Technical Gas Analysis, by the Orsat, Elliot, and Hempel systems. *One period a week, of three hours.*

First term. One term hour.

PROFESSOR DURKEE AND ASSISTANT

35-10 Organic Chemistry. This course consists of lectures, recitations, and laboratory work. It is intended to familiarize the student with the typical compounds of carbon and their more important derivatives. The work in the laboratory includes the preparation of certain of the more important substances referred to in the lectures; the identification of certain classes of compounds; and organic analysis. *Four periods a week, three lectures, one three-hour laboratory period.*

First and second terms. Eight term hours.

ASSISTANT PROFESSOR COBB

35-11 Theoretical and Advanced Inorganic Chemistry. The subject matter of this course consists largely of the principles usually included under the head of Physical Chemistry. A part of the year is set aside for the consideration of inorganic material which is not included in the elementary course. The work in the laboratory includes both physical chemical measurements and the preparation of inorganic compounds. *Three periods a week, two lectures, one two-hour laboratory period.*

First and second terms. Six term hours.

ASSISTANT PROFESSOR COBB

35-15 Applied Chemistry. A course dealing with the most important applications of inorganic and organic chemistry to manufacturing purposes, such as the production of sulphuric acid, soda, illuminating gas, and sugar. *Two periods a week. Lectures, visits to plants, text-book work, and recitations.*

First and second terms. Four term hours.

PROFESSOR DURKEE

35-99 Chemical Engineering Thesis. The development of a Chemical Engineering problem by extended personal research.

Second term. Three to five term hours.

PROFESSOR DURKEE AND ASSISTANT PROFESSOR COBB

41 CIVIL ENGINEERING

***41-1 Surveying.** Field practice with transit and level, training in the use of equipment, and duties of a survey party. Neat and systematic field notes are required. Area computation, problems in dividing land, resurveys, and plotting are treated under office work. The field work occupies about three-fifths of the time. Practical and business-like methods are required throughout the course. *Two three-hour periods a week.*

First term. Two term hours.

ASSISTANT PROFESSOR TUCKER

***41-2 Surveying.** A course in general surveying methods, covering the elements of topographical surveying and drawing, practice with stadia, plane table, and triangulation transit, and making adjustments of transit and level. The planimeter and level trier are analyzed and applied. Volumes, extensive practice in contours, and the figuring and staking of a few simple Railroad curves, lead to Railroad Surveying. *Preparation, 41-1. Two periods a week; three hours each.*

First term. Two term hours.

ASSISTANT PROFESSOR TUCKER AND MR. CONNER

41-11 Railroad Surveying. Field practice in locating a short line of railroad through rough country near the college. Surveys for the improvement or reconstruction of existing railroads. Office work on plans, profiles, estimates and reports. *Two periods a week; three hours each. Preparation, 41-2.*

First term. Two term hours.

MR. CONNER

41-13 Railroad Engineering. Lectures and recitations on the construction of steam and electric railroads; the railroad engineering features of track elevation, subways, tunnels, roundhouses, repair shops, water and coaling stations. *Three periods a week; one hour each. Preparation, 41-11.*

Second term. Three term hours.

MR. CONNER

41-14 Railroad Engineering. Lectures and recitations concerning maintenance of railroads; discussions on track materials and track work, frogs and switches, yard layouts, maintenance of way standards, equipment and tools. *Three periods a week; one hour each. Preparation, 41-13.*

First term. Three term hours.

MR. CONNER

* Courses 41-1 and 41-2 are offered as a Summer Course in Surveying of three weeks in length, to be given at the college about June 14.

41-17 Railroad Engineering Economics. Lectures and recitations on the economic principles of railroad location and operations; discussions on grade and alignment revisions, double-tracking and general improvements. *Three periods a week; one hour each. Preparation, 41-14.*

Second term. Three term hours.

MR. CONNER

41-21 Highways and Cements. The underlying principles of road and street location, and typical pavement constructions are discussed, with modern problems of maintenance. Tests of wearing and cementing qualities of traps, abrasion or "rattler" test of paving bricks, and the common laboratory tests of Portland cements are made, and the proportions of concrete studied. *Two periods a week; two hours each.*

Second term. Two term hours.

ASSISTANT PROFESSOR TUCKER

41-31 Geodesy. The determination of a true meridian, accurate measurement of a base line, of angles in a triangulation system, and the adjustment of observations by the method of least squares. *Two periods a week; three hours each. Preparation, 41-2.*

First term. Two term hours.

PROFESSOR SANBORN AND MR. CONNER

41-41 Sanitary Engineering. The elements of sanitary science, water and its purification, and the disposal of sewage and garbage. *Three recitations a week.*

First term. Three term hours.

PROFESSOR SANBORN

41-43 Hydraulic Measurements. A laboratory and field course in hydraulics and hydrography; experiments with contracted and submerged weirs, piezometers, Pitot tubes, mercury columns, standard nozzles, turbine and disc meters, duplex pump, and gaging of river or canal by rod floats and current meter. *Two three-hour periods a week.*

Second term. Two term hours.

PROFESSOR SANBORN

41-45 Hydraulic Engineering. A course dealing with water-shed areas, canals, penstocks, water-powers, wheels, and turbines. *Three recitations a week.*

Second term. Three term hours.

PROFESSOR SANBORN

41-51 Fire Protection Engineering considers water-works, systems of piping, elevated tanks and stand pipes, fire streams, hydrants, pumps, automatic sprinklers, steam fire-engines, joisted and slow-burning construction of buildings, general order and neatness of industrial plants as affecting fire hazards. *Two periods a week; one recitation and one three-hour period.*

Second term. Two term hours.

PROFESSOR SANBORN

41-62 Contracts. The writing and interpretation of construction contracts and specifications, and deed descriptions; the contractual

basis of the law of Partnership, Corporations, Sales, and Negotiable Paper; the duties and responsibilities of the engineer as an agent, business man, and independent contractor are discussed in lectures and recitations. *Two recitations a week.*

First term. Two term hours.

ASSISTANT PROFESSOR TUCKER

41-95 Civil Engineering Topics. Each student is required to present three topics from the Proceedings of the American Society of Civil Engineers. The presentation must be in the form of a lecture, brief reference notes being permitted. Each student is required to participate in class discussion. *Two periods a week; one hour each — 10 minutes for review, 25 for speaker, 15 for class discussion. Preparation, Junior Civil Engineering courses.*

First term. Two term hours.

PROFESSOR SANBORN

41-99 Civil Engineering Thesis. A single topic is developed by extended research, design, or experimentation.

Second term. Three to five term hours.

PROFESSOR SANBORN

45 APPLIED MECHANICS

45-1 Applied Mechanics. This is a consideration of the principles of the strength of materials, relating to beams, columns and shafts, and is essentially a mathematical treatment. In the development, the following subjects are treated in detail: centre of gravity; moment of inertia; the laws of elasticity; coefficients of elasticity; relations between stress and strain; pure stresses, as tension, compression, and shear; elastic limits, working stresses and ultimate resistances of wrought iron, steel, timber, and concrete; reactions and bending moments of beams; bending moment and shear diagrams; theory of flexure. It includes also the design and construction of steel and timber beams, columns, and shafts, and the design of plate girders. *Three periods a week; recitations and lectures with numerous problems. Preparation, 29-5 and 31-4.*

First term. Three term hours.

PROFESSOR ROCKWELL AND MR. SMITH

45-2 Applied Mechanics. A continuation of the subjects treated in 45-1. In addition, an introduction to the methods of graphic statics, and a brief treatment of the principles of mechanics involved in reinforced concrete construction are given. *Three periods a week; recitations and lectures with problems. Preparation, 45-1.*

Second term. Three term hours.

PROFESSOR ROCKWELL AND MR. SMITH

45-3 Structural Mechanics. A treatment of the mechanics of masonry structures, including their design and construction. The subjects treated are retaining walls, abutments, masonry arches, chimneys, dams, and

masonry foundations. A large part of the course is devoted to design in reinforced concrete structures. *Three periods a week ; recitations and lectures with problems and designs. Preparation, 45-2.*

First term. Three term hours.

PROFESSOR ROCKWELL

45-9 Mechanics-Problems. Mechanics-problems adapted from actual examples as found in engineering practice. *Two recitations a week. Preparation, 31-3.*

First term. Two term hours.

PROFESSOR SANBORN

45-12 Applied Mechanics Laboratory. This course deals with the resistance of the materials of construction, and comprises the testing of cast iron, steel, wrought iron, timber, and concrete in tension, compression, and shear, and the determination of the elastic limits, ultimate strengths, and coefficients of elasticity of these materials. *One period a week ; three hours. Simultaneous with 45-1.*

First term. One term hour. PROFESSOR ROCKWELL AND MR. SMITH

47 STRUCTURAL ENGINEERING

47-1 Roofs and Bridges. A study of the different methods, algebraic and graphical, for the determination of stresses in simple framed structures. A large part of the course is devoted to the stresses in bridge trusses in use at the present time, such as the Pratt, Warren, and Baltimore trusses with parallel chords, and modifications of these, with curved chords. Some attention is also given to forms that have been used in the past, as the Whipple and lattice trusses. The fundamental principles of influence lines are developed and applied to the simpler forms of trusses. *Three periods a week ; lectures and recitations, with problems. Preparation, 45-1. Simultaneous with 45-2.*

Second term. Three term hours.

PROFESSOR ROCKWELL

47-2 Theory of Structures. An advanced course in the theory of structures, both steel and masonry. It deals with draw-bridges, cantilevers, suspension bridges, and the elastic arch. The method of influence lines is used to a considerable extent in addition to the usual algebraic methods. *Three periods a week ; lectures and recitations, with problems. Preparation, 47-1 and 45-3.*

Second term. Three term hours.

PROFESSOR ROCKWELL

47-5 Structural Design. An introductory course in the design of framed structures. It consists of the complete designs of a steel roof truss and a plate girder bridge, with the necessary shop drawings. *Two periods a week ; three hours each. Simultaneous with 45-2.*

Second term. Two term hours.

PROFESSOR ROCKWELL AND MR. SMITH

47-6 Structural Design. The design of a steel mill building and some structure of reinforced concrete; the details being worked out as completely as time permits. *Two periods a week; three hours each. Preparation, 47-5. Simultaneous with 45-3.*

First term. Two term hours. PROFESSOR ROCKWELL AND MR. SMITH

47-9 Bridge Design. A course in the design of riveted and pin connected steel bridges, with details of the distinctive features of each, as large compression and tension members, theory of latticing, large riveted connections, pin connections, splices, wind bracing, portal framing, and floor beam connections. *Two periods a week; three hours each. Preparation, 47-1 and 47-6.*

Second term. Two term hours. PROFESSOR ROCKWELL AND MR. SMITH

47-99 Structural Engineering Thesis. A single topic is developed by extended research, design, or experimentation.

Second term. Three to five term hours. PROFESSOR ROCKWELL

51 MECHANICAL ENGINEERING

Mechanism. See 21-11 and 21-12 in the Department of Drawing.

Machine Design. See 21-21 and 21-22 in the Department of Drawing.

51-1 Steam Engine. This course deals with the generation of steam and gas for power purposes. It comprises a study of modern types of boilers and their auxiliary apparatus, and of methods for the production of power gas. A brief consideration is given to the use of steam and gas in the different types of steam engines and gas engines. *Three periods a week; lecture or recitation. Preparation, 21-11 and 29-3.*

First term. Three term hours. PROFESSOR C. H. CHASE

51-3 Thermodynamics. This course is devoted to the thermodynamics of the steam engine and other heat engines, and includes a study of the properties of steam and gas as used in steam engines, turbines, and gas engines; also the working fluids and saturated vapors used in refrigeration. The object of the course is to teach the application of the principles to actual conditions. *Three recitations a week. Preparation, 29-5 and 51-1.*

Second term. Three term hours. PROFESSOR C. H. CHASE

51-5 Valve Gears. A study of the principal types of valve gears, including the plain slide valve, swinging eccentrics, link motions, radial gears, double valve gears, and releasing mechanisms. *Two periods a week; one hour recitation and three hours drafting. Preparation, 51-1 and 21-11.*

First term. Two term hours. PROFESSOR C. H. CHASE

51-7 Engine Design. The design of steam and gas engines, involving the strength and proportion of parts, the stresses set up, and the condition

for static and dynamic equilibrium. *Three periods a week; two recitations and three hours drafting. Preparation, 21-21, 51-3, and simultaneous with 51-5.*

First term. Three term hours.

PROFESSOR C. H. CHASE

51-9 Steam Engineering. A study of steam and gas power plant equipment. Boiler construction and design, including calculations for one type of boiler. Pumps, heaters, condensers; arrangement of piping; chimneys, mechanical draft; mechanical stoking, coal handling. Power gas generators; suction and pressure types. *Three hours a week; lecture and recitation. Preparation, 51-7.*

Second term. Three term hours.

PROFESSOR C. H. CHASE

51-21 Mechanical Engineering Laboratory. Efficiency of simple machines; screw threads; hoists; simple, duplex, triplex; rope and belt friction; transmission of power by belts. The results of all laboratory work are submitted in the form of carefully written reports. The determination of the clearance of engines; valve setting on plain slide valve, riding cutoff, and Corliss engines. Gage testing; the adjustment and use of indicators; testing indicator springs; the use of several types of steam calorimeters; injector test; flow of steam through orifices. *Two periods a week; three hours each. Preparation, 21-12 and 51-1. Simultaneous with 51-3.*

Second term. Two term hours.

PROFESSOR C. H. CHASE AND MR. SVENSEN

51-22 Mechanical Engineering Laboratory. Tests on riding cutoff, shaft governor, and Corliss engines, a four-cycle gas engine, and a two-cycle gasolene engine; tests on a $16 \times 8\frac{1}{2} \times 9$ duplex steam pump, measurement of water by weir, nozzle, and meter; analysis of flue and producer gases; condenser tests. *Two periods a week; three hours each. Preparation, 51-21.*

First term. Two term hours.

PROFESSOR C. H. CHASE

51-23 Mechanical Engineering Laboratory. Tests on a horizontal return fire tubular boiler; determination of the velocity of steam through ports; coefficients of friction with different oils and friction on different types of bearings; test on a 35-inch exhaust fan; test at 2000 K.W. power station, and other tests which may be arranged. *Two periods a week; three hours each. Preparation, 51-22.*

Second term. Two term hours.

PROFESSOR C. H. CHASE

51-95 Mechanical Engineering Topics. A course of lectures by students. Each member of the course chooses three topics from the proceedings of the American Society of Mechanical Engineers. The subjects are presented to the class in the form of lectures, followed by dis-

cussion and criticism. *Two periods a week. Preparation, Junior Mechanical Engineering courses.*

First term. Two term hours.

PROFESSOR ANTHONY

51-99. Mechanical Engineering Thesis. An essay based on extended personal research, design, or experimentation.

Second term. Three to five term hours.

PROFESSOR ANTHONY AND PROFESSOR C. H. CHASE

54 GEOLOGY

The subjects offered in the department of Geology do not form a sequence, but are intended to give different classes of students that knowledge of geology and mineralogy which they need. In all cases, they aim to include some real grasp upon the structure and history of the earth, the problems presented in the study thereof, and the modes of attack upon those problems. The first subject (Geology 1) is introductory, open to all, and intended primarily for those who have had no previous work in science. The other subjects are such that certain preliminary studies, stated in connection with each, must be taken before entering upon them.

The illustrative collections in these lines are ample. Besides exhibition specimens in the Barnum Museum, there is a working collection illustrating mineralogy, lithology, and dynamical and historical geology. These are supplemented with maps, diagrams, photographs, and lantern slides. The work in each subject consists of lectures and recitations, together with work in the laboratory and in the field. Excursions are taken to neighboring points that illustrate certain phenomena. Tufts College is well placed for field work and for the study of various natural processes.

54-1* Physical Geology and Geography Lectures and recitations; laboratory and field work.

Second term. Three term hours.

PROFESSOR LANE

54-2 General and Economic Geology. Lectures and recitations; laboratory and field work. *Six hours a week.*

First and second terms. Six term hours.

PROFESSOR LANE

* Not given in 1909-10.

54-3* Mathematical Problems presented to Geologists. Conferences and critical reading of selected papers and original work.

First and second terms. Six term hours.

PROFESSOR LANE

54-4* Field Geology. *One recitation and six hours field work a week. Preparation, 54-2.*

First part of first and last part of second term. Three term hours.

PROFESSOR LANE

61 ELECTRICAL ENGINEERING

The aim of the work in this department is to fit men to deal intelligently with electrical problems likely to be presented to the practical engineer. With this in view, principles rather than details are emphasized, and these principles are developed and fixed by the free use of concrete problems as well as by laboratory experiments and tests.

61-1 Electrical Laboratory. An introduction to electrical testing, including the calibration of instruments, the study of arc and incandescent lamps, the storage battery, and the magnetic properties of iron. In the latter part of the term some of the more elementary dynamo tests are undertaken. *Two periods a week ; three hours each. Preparation, 31-6 and simultaneous with 61-3.*

Second term. Two term hours.

MR. ROLLINS AND MR. MUNRO

61-3 Dynamo Electric Machinery. An elementary course dealing with the fundamental principles of dynamo electric machinery and their application in the construction and operation of direct current generators and motors. Some attention is also given to storage batteries, arc and incandescent lamps, and systems of direct-current distribution. *Three recitations a week Preparation, 31-5.*

Second term. Three term hours.

PROFESSOR HOOPER

61-5 Alternating Current Machinery. A course treating of the theory, construction, and operation of synchronous alternators. *Three recitations a week. Preparation, 61-3.*

First term. Three term hours.

PROFESSOR HOOPER

61-6 Alternating Current Machinery. A continuation of 61-5, treating of the synchronous convertor, transformer, induction motor, and commutating motors. *Three recitations a week. Preparation, 61-5.*

Second term. Three term hours.

PROFESSOR HOOPER

* Not given in 1909-10.

61-7 Dynamo Laboratory. Advanced, direct, and alternating dynamo testing. *Two periods a week ; three hours each. Preparation, 61-1 and 61-3. Simultaneous with 61-5.*

First and second terms. Four term hours.

MR. ROLLINS AND MR. MUNRO

61-11 Alternating Currents. The mathematical development of equations and formulas from elementary electrical principles, and the physical interpretation of the equations and formulas thus developed. *Three periods a week. Preparation, 31-5 and 29-10.*

First term. Three term hours.

PROFESSOR HOOPER

61-15 Electrical Engineering. A course dealing with the production, transmission, distribution, and utilization of electrical power. *Three recitations a week, with solution of assigned problems. Preparation, 61-5.*

Second term. Three term hours.

PROFESSOR HOOPER

61-17 Telephone and Telegraph. A course on principles and operation of telephone and telegraph systems. *Three periods a week. Preparation, 31-5 and 31-6.*

Second term. Three term hours.

MR. ROLLINS

61-21 Dynamo Design, D.C. A course on the practical design of direct current machinery. *Two periods a week ; three hours each. Preparation, 61-3.*

First term. Three term hours.

MR. MUNRO

61-22 Dynamo Design, A.C. A course on the practical design of alternating current apparatus. *Three periods a week. Preparation, 61-3 and 61-21.*

Second term. Three term hours.

PROFESSOR HOOPER AND MR. MUNRO

61-95 Electrical Topics. Lectures by students on electrical subjects, followed by discussion and criticism. *Three periods a week. Preparation, 61-5.*

Second term. Three term hours.

PROFESSOR HOOPER

61-99 Thesis. An essay based on some construction, design, or investigation.

Second term. Three to five term hours.

PROFESSOR HOOPER, MR. ROLLINS, AND MR. MUNRO

64 MINERALOGY

See introductory statement under 54 Geology.

64-1 Mineralogy and Lithology. *Two recitations and four hours laboratory work a week. Preparation, 35-1.*

First term. Three term hours.

PROFESSOR LANE

64-1 Mineralogy alone may be of use to civil and structural engineers,

but those who are looking to mining or chemical engineering should take both 64-1 and 64-2, if either.

64-2 Crystallography and Descriptive Mineralogy. *Two lectures and four hours laboratory work a week. Preparation, 64-1.*

Second term. Three term hours.

PROFESSOR LANE

81 POLITICAL ECONOMY

81-1 Elements of Economics. Designed especially for students of engineering, aims at a systematic and comprehensive study of the elements of economics, and comprises work in some of the more important problems of modern industrial society. Exposition of the fundamental principles of the production, distribution, exchange, and consumption of wealth. Bullock's Elements of Economics is used as a guide. *Three recitations a week.*

First term. Three term hours.

PROFESSOR METCALF

66-5 Money, Credit, and Banking. An historical course, with special reference to the financial experience of the United States. Leading topics are Hamilton's financial system; protection and revenue tariffs; the bank question; the fiscal policy of the Civil War; resumption of specie payments; the national banking system; State and local taxation; silver legislation and the panic of 1893; government loans; present currency problems. Dewey's financial History of the United States is used as a guide. *Three recitations a week. Preparation, 81-1.*

Second term. Three term hours.

PROFESSOR METCALF

66-16 Modern Labor Problems. This subject deals mainly with the social and economic problems arising from the relations of employers and their laborers. The chief topics will be the growth, methods, and aims of modern associations of wage earners; methods of conciliation and arbitration; strike and factory legislation; employers' liability and recent compensation acts; compulsory publicity; provident institutions and friendly societies. Each member of the class will be expected to make a report upon a labor union. *Lectures and recitations. Three recitations a week. Preparation, 81-1.*

Second term. Three term hours.

PROFESSOR METCALF

A. B. AND B. S. IN FIVE YEARS

Provision has been made, for such students as are prepared to enter upon the course leading to A.B. (see pages 37 to 56), to secure the degrees of Bachelor of Arts and Bachelor of Science in five years.

In order to obtain both degrees at the end of five years, Freshmen should enter with one unit of credit in Solid Geometry, under the Secondary Group (pages 37, 51).

The work in College would then be distributed as follows:—

Freshman Program

First half-year:—

	TERM HOURS
Mathematics 29-1	3
Mathematics 29-2	3
English 1	3
Two languages	6
Physical Training	

Second half-year:—

	TERM HOURS
Mathematics 29-3	3
Physics 31-1	3
English 2	3
Two languages	6

Sophomore Program

First half-year:—

	TERM HOURS
A third language	3
Drawing 21-1	3
Physics 31-2	3
Mathematics 29-4	3
History 1	3
Physical Training	

Second half-year:—

	TERM HOURS
A third language	3
Drawing 21-1	2
Physics 31-3	3
Mathematics 29-5	3
History 1	3

The Junior year will be the same as the Sophomore year of the Engineering School, substituting Philosophy 3, with 4 or 5, and Mechanic Arts 25-1, and Descriptive Geometry 21-5, for Mathematics 29-4 and 5, and Physics 31-2 and 3.

The last two years will be the same as the Junior and Senior years in the course in Engineering.

After the Freshman year, the program limitation, and the tuition fees, will be those of the Engineering School.

For the explanation of the subject numbers above, consult the announcement of the Engineering School.

Further information concerning the Engineering School will be found in a special pamphlet, to be obtained by addressing Dean Anthony, Tufts College, Mass.

THE GRADUATE SCHOOL

Faculty of the Graduate School

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT

J. STERLING KINGSLEY, Sc.D., DEAN

Professor of Biology

PHILIP M. HAYDEN, A.B., SECRETARY

CHARLES E. FAY, A.M., Litt.D.

Wade Professor of Modern Languages

WILLIAM L. HOOPER, A.M., Ph.D.

Professor of Electrical Engineering

ARTHUR E. AUSTIN, A.B., M.D.

Professor of Medical Chemistry

DAVID L. MAULSBY, A.M.

Professor of English Literature

FRANK W. DURKEE, A.M.

Professor of Chemistry

GEORGE VAN NESS DEARBORN, A.M., Ph.D., M.D.

Professor of Physiology

WILLIAM K. DENISON, A.M.

Professor of the Latin Language and Literature

LAWRENCE B. EVANS, Ph.D.

Professor of History

HENRY C. METCALF, Ph.D.

Jackson Professor of Political Science

CHARLES ST. CLAIR WADE, A.M.

Professor of the Greek Language and Literature

FRANK G. WREN, A.M.

Walker Professor of Mathematics

STANDING COMMITTEES OF THE GRADUATE SCHOOL

EXECUTIVE: Professor Hooper, *Chairman*; Professors Denison and Metcalf.

REQUIREMENTS FOR DEGREES: Professor Evans, *Chairman*; Professors Wade and Maulsby.

The Graduate School

INSTRUCTION

Graduate instruction is given by members of the several existing faculties. The advanced elective work offered to undergraduates in any department of the School of Liberal Arts is open to graduate students, and will count for the degree of Master of Arts, on condition that it be not counted for any other degree.* Additional courses still more advanced may be arranged with the instructor in whose department the work is to be done.

DEGREES

The degrees offered are Master of Arts and Master of Science. Departments at present open to candidates for the degree of Master of Arts are:—

ENGLISH,	MATHEMATICS,
MODERN LANGUAGES,	CHEMISTRY,
ANCIENT LANGUAGES,	PHYSIOLOGICAL CHEMISTRY,
HISTORY AND PUBLIC LAW,	BIOLOGY,
POLITICAL SCIENCE,	PHYSIOLOGY,
ELECTRICITY.	

The degree of Master of Science is offered in Biology, in Chemistry, and in Engineering.

THE DEGREE OF MASTER OF ARTS will be conferred upon graduates of Tufts College who have received the degree of Bachelor of Arts, or upon graduates of other colleges whose course of study has been equivalent to that required at Tufts College for the degree of Bachelor of Arts, upon the following conditions:—

I. They shall have completed an approved course of advanced study, including the equivalent of at least thirty term hours, in one or at the most two departments. If two departments are chosen they should be allied, and should occupy the relation of major and subsidiary department.

* Students doing work in undergraduate classes are required to take the appointed final examination with these classes.

2. This course shall be pursued during a residence of not less than one year. In the case of graduates of Tufts College, the condition of residence may be waived by special permission, but the degree cannot then be taken with less than two years of graduate study.

3. The candidate shall prepare a thesis in the form prescribed by the regulations, which may be ascertained at the Secretary's office, and shall pass a satisfactory examination under the supervision of a board of three examiners, appointed by the Graduate Faculty at its May meeting. The thesis must be presented at least one month before Commencement.

4. No subject counted for the first degree will be counted for the second degree.

5. Students taking the degree at the end of a four years' course of study must have complied with the requirement as to standing governing those who receive the degree of A.B. at the end of three years; that is, an average standing of Grade B, or higher, must have been attained on the entire work of the course.

6. Candidates for this degree must make a written application to the Graduate Faculty before October 1 of the college year in which the degree is to be conferred, and if the degree is not taken after one year of study they must also give a second notice three months before receiving the degree. This application shall indicate the department or departments in which it is proposed to pursue work for a degree.

Graduates of Tufts College who have taken the degree of Bachelor of Philosophy, or graduates of other colleges holding a degree of similar grade, must complete the requirement for the degree of Bachelor of Arts before they can be entered as students in courses leading to the degree of Master of Arts.

THE DEGREE OF MASTER OF SCIENCE will be conferred upon Bachelors of Science who shall satisfactorily pursue advanced professional study at Tufts College for one year, under the conditions required of candidates for the degree of Master of Arts; or upon Bachelors of Science of Tufts College who shall pursue graduate work *in absentia* for at least two years, or who shall present suitable evidence of three years of professional work, one year of which must be in a position of responsibility, in which case a certain amount of professional study will be assumed. A thesis based upon this study will be required.

DEPARTMENTS OPEN TO CANDIDATES FOR THE DEGREE OF
MASTER OF ARTS

ENGLISH.—It is assumed that candidates for the degree of Master of Arts in English will have already laid a good foundation in English composition and the history of English literature. The amount of work expected is roughly indicated by that required of a major student in English at this College. When not anticipated in undergraduate work, the subjects numbered 7*, 10, 14 to 19, 21, 23, 25, 26, 27, and 28, may be counted towards the Master's degree, provided that the work done distinctly surpasses in quality that required of undergraduates. On the other hand, a part of the work or the entire work for the advanced degree may consist of a special course of study, undertaken under the direction of the department. Such special work must be of creative or investigative order. It may take the form of discussion of some question in literary history or literary criticism. It may consist of the intensive study of an author or a period. The use of German and French is sometimes necessary. A final oral examination is customary.

MODERN LANGUAGES.—The undergraduate subjects at present offered in Modern Languages enable the candidate for the degree of Bachelor of Arts who specializes in this department to cover the work formerly required for the Master's degree. For those who have not taken the more advanced subjects, the department offers a full graduate course leading to the degree of Master of Arts. The work is performed in existing undergraduate classes. To enter upon this course, the candidate must have completed the equivalent of six of the Modern Language subjects, including 1 and 3 † in both German and French. Of elementary subjects only Italian may be taken, by such as have had the equivalent of two years of French. Graduate students whose special work is being performed in other departments are admitted to such classes in German and French, beyond subject 1, as their proficiency will warrant.

* See "Departments of Instruction," pages 67 and 68.

† See "Departments of Instruction," pages 67 to 72.

ANCIENT LANGUAGES. — Candidates for the degree of Master of Arts in Greek or Latin must have completed, for Greek, subjects 1, 2, 3, and 4 or 5; for Latin, subjects 1, 2, 3 or 4, and 5, or equivalents.* It is desirable that candidates for this degree in either of the ancient languages present the other as a minor department. Exceptional cases will be treated in accordance with the varying circumstances. Greek 4, 5, 7, 8, and 9, Latin 3, 4, 6, 8, 9, 10, and Classical Archæology 1, 2, 3, 4, 5, and 6, so far as these have not been anticipated as undergraduate work, may be counted towards the Master's degree. Graduate students will be expected to do work of an advanced character, either in classes with undergraduates or on special lines of investigation assigned by the instructors. The required thesis, on an approved topic, must embody the results of the investigation of some author or period, or of some philological or archæological subject. A reading knowledge of French and German is indispensable.

HISTORY AND PUBLIC LAW.—Before beginning graduate work in History and Public Law every student must have completed History 1 and 2, and Public Law 1 or 2, or their equivalent.† The advanced subjects enumerated in the catalogue, in so far as they are suited to the needs of the candidate, may be offered for the higher degrees, but it is expected that much of the candidate's work will consist of special work pursued under the direction of the department.

For the degree of Master of Arts, a working knowledge of French is essential. A similar knowledge of German is desirable, and in some cases may be necessary. In addition to the subjects required for the degree candidates will be expected to do something in the way of an independent investigation of a definite subject, the result to be embodied in a thesis.

A final oral examination is customary.

POLITICAL SCIENCE.—The degree of Master of Arts in Political Science is conferred on graduates of Tufts College who

* See "Departments of Instruction," pages 72 to 76.

† See "Departments of Instruction," pages 80 to 83.

pursue successfully one year of resident graduate study. Bachelors of Arts of other colleges must satisfy the department that they are qualified by previous training to enter upon the desired course of study, and show the results of a year's resident graduate work with high credit. A good reading knowledge of French and German is desirable, and may in certain lines of work be necessary. Before receiving the degree all candidates are expected to sustain a final oral examination, and give evidence by a thesis of their ability to do work of the investigative order. In addition to the regular advanced work offered by the department, special subjects giving opportunity for original investigation will be outlined for candidates wishing to pursue them.

MATHEMATICS.—Graduate students in Mathematics must have acquired a working knowledge of the calculus, and may offer as part of their work for the Master's degree any of the subjects given by the department except the first six, but subjects 7, 9, and 10, or their equivalents, must be included.* Candidates will hold themselves in readiness to be examined at the end of their studies upon any topics treated in the first six subjects, as well as upon work offered for the degree.

CHEMISTRY.—The requirements for beginning graduate work in Chemistry are the completion of subjects 1, 2, and 3, or their equivalent.† Subjects 4, 5, 7, 8, 9, 10, 12, and 14 may be counted toward the Master's degree, if they have not been counted as undergraduate work. Examination is required, and a satisfactory thesis.

PHYSIOLOGICAL CHEMISTRY.—The work in Physiological Chemistry requires in preparation a thorough foundation in inorganic and organic chemistry, including qualitative and quantitative analysis; the ability to read scientific French and German readily; and a thorough knowledge of the elements of physics, particularly with reference to the laws of the density of gases and fluids under heat and pressure, as well as such ac-

* See "Departments of Instruction," pages 87 and 88.

† See "Departments of Instruction," pages 90 to 93.

quaintance with optics as will enable one to use intelligently the polariscope, the spectroscope, and the microscope.

The course is one of laboratory work wholly, under the personal advice and assistance of the instructor, and must include one original investigation, to require not less than one half-year, and to be accompanied by a satisfactory thesis upon the results of such research. The subject of this investigation may be taken from the realm of enzymes, metabolism, or hygiene. A rigid examination will also be demanded upon the principles of physiological chemistry.

PHYSIOLOGY.—Before beginning graduate work in Physiology the candidate for the degree of Master of Arts must have had at least a year's training in biology, and, besides, a knowledge of the outlines of anatomy and physiology such as may be obtained from such works as Martin's Human Body, with simple laboratory experiments. A reading knowledge of French and German is desirable, and in some cases may be necessary. The work of the year is largely practical. It involves the completion of the work in physiology required of candidates for the degree of Doctor of Medicine, and, in addition, the investigation of some simple problem which shall serve as the basis of the required thesis.

BIOLOGY.—Before beginning graduate work in Biology the student must have a good knowledge of the elements of vertebrate and invertebrate anatomy and of physiology (subjects 1 to 4 of Tufts College, or their equivalent), and must be able to use French and German.* The work offered for advanced degrees is in the lines of comparative anatomy and of the histology and embryology of animals. Consequently the greatest stress will be laid upon laboratory work, but students may also take the subjects numbered 5, 6, 8, and 9.

For the degree of Master of Arts or Master of Science the student must pass a satisfactory examination in the principles of morphology, and present an acceptable thesis embodying the result of research.

* See "Departments of Instruction," pages 93 to 95.

ELECTRICITY.—As a preparation for graduate work in Electricity the candidate must have a thorough mathematical foundation, including differential equations, and a good knowledge of physics, including elementary electrical tests (Physics 2 and 31-1 to 31-4* of Tufts College, or an equivalent). Unless these requirements be met upon beginning graduate work, it will scarcely be possible to obtain the master's degree in one year.

The graduate work will include the satisfactory completion of subjects 61-3, 61-5, 61-6, 61-7, 61-9, and 61-11,* and the preparation of an acceptable thesis involving original research.

FELLOWSHIPS

THE OLMSTEAD AND MINER FELLOWSHIPS IN NATURAL HISTORY.—In accordance with the spirit of the gift of the late Charles Hyde Olmstead, of Hartford, Conn., the Trustees have established two fellowships in Natural History, to be known respectively as the Olmstead and the Miner Fellowship. The income of these fellowships, amounting to two hundred and fifty dollars annually each, is awarded by the Trustees to graduate students in Natural History, upon recommendation of the Administrative Board. The conditions of the fellowships are as follows:—

(1) The application must be made in writing before May 1, addressed to the President of the College. It must contain evidence of a liberal education, and of ability to profit by the work to be done, as well as testimonials of good character from instructors or others. Any original article, either written or printed, is an aid in ascertaining the attainments of the candidate.

(2) The holder of the fellowship will be expected to devote himself to the prosecution of some special subject, under the direction of the professor in charge of the department of Natural History. He may be called upon for minor services, such as conducting examinations, but he shall not be called upon to teach. He may, however, at his own option, and with the approval of the President, give instruction by lectures or otherwise to persons connected with the College, but not elsewhere.

(3) The payments will be made half in January and half in June; but, in case of resignation or removal from the fellowship, payment will be

* See pages 88 and 149.

made only for the time it is actually held. The holder of the fellowship is not exempt from the payment of tuition.

- (4) Residence is a condition of holding either of these fellowships.

The holder of a fellowship may be eligible to a single re-election, but incumbency constitutes no claim to re-appointment.

SCHOLARSHIPS

The Trustees of Tufts College have established eleven scholarships, one in each department offering graduate work. Each scholarship gives free tuition to the incumbent, who is expected to devote himself exclusively to advanced study.

These scholarships are awarded by the Graduate Faculty, on recommendation of the heads of departments concerned, at or before the beginning of the year in which they are to be conferred. Applications must be made to the President on or before May 1 of the preceding year, and will regularly be acted upon at the June meeting of the Graduate Faculty.

TUITION

The tuition fee for the whole course for the degree of Master of Arts, or Master of Science, is *one hundred dollars*, of which *fifty dollars* is payable in advance.

THE CRANE
THEOLOGICAL SCHOOL

Faculty of the Crane Theological School*

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT

CHARLES H. LEONARD, A.M., D.D., LL.D., DEAN
Goddard Professor of Homiletics and Pastoral Theology

PHILIP M. HAYDEN, A.B., SECRETARY†

WILLIAM G. TOUSEY, A.M., D.D.
Ryder Professor of Ethics and the Philosophy of Theism

GEORGE T. KNIGHT, A.M., D.D.
Packard Professor of Christian Theology

GEORGE M. HARMON, A.M., D.D.
Professor of Biblical Theology

WARREN S. WOODBRIDGE, A.M., D.D.
Woodbridge Professor of Applied Christianity

EDWIN C. BOLLES, A.M., PH.D., D.D., LL.D.
Dickson Professor of English and American History

J. STERLING KINGSLEY, Sc.D.
Professor of Biology

ALFRED C. LANE, A.M., Ph.D.
Pearson Professor of Geology and Mineralogy

HERBERT E. CUSHMAN, A.M., PH.D.
Professor of Philosophy

DAVID L. MAULSBY, A.M.
Professor of English Literature and Oratory

THOMAS WHITTEMORE, A.B.
Professor of English

HENRY C. METCALF, A.B., PH.D.
Jackson Professor of Political Science

* Below the line are printed the names of instructors who, while not members of the Theological Faculty, offer subjects that are open to students of the School.

† *Ex officio*, as Secretary of the Faculty of Arts and Sciences.

LAWRENCE B. EVANS, PH.D.

Professor of History

CHARLES ST. CLAIR WADE, A.M.

Professor of the Greek Language and Literature

OSCAR MARTIN

Director of the Gymnasium

NON-RESIDENT LECTURERS

HENRY W. RUGG, D.D.

The Missionary Principle and Work

STEPHEN H. ROBLIN, D.D.

The Relation of the Church to the Ills of Mankind

LEVI M. POWERS, D.D.

The Relation of the Ministry to Social Problems

R. PERRY BUSH, D.D.

The Minister among Men

JAMES H. HOLDEN, A.M.

The Minister in his Parish

RICHARD E. SYKES, D.D.

Men's Clubs

GEORGE G. HAMILTON, D.D.

The Evangelical Spirit

FREDERIC W. PERKINS, D.D.

The Interpretation of Life in Terms of Religion

VINCENT E. TOMLINSON, D.D.

The Relation of the Minister to the Sunday School

CHARLES CONKLIN, D.D.

The Relation of the Minister to the Ecclesiastical Organization

JOHN COLEMAN ADAMS, D.D.

The Psychology of Childhood

COMMITTEE ON PROMOTIONS

President Hamilton, *Chairman* ; Professor Harmon, Mr. Hayden.

The Crane Theological School

The Theological School is one of the co-ordinate departments of Tufts College. Students of the School are members of the College, enjoying its privileges and subject to its regulations.

COURSES OF STUDY

A course of three years, open to college graduates, leads to the degree of Bachelor of Divinity.

A course of six years leads to the degrees of A.B. and B.D., the requirements for admission being the same as those for candidates for the degree of A.B. (See pages 37 to 56.)

A course of four years leads to the degree of B.D., the requirements for admission being the same as those for candidates for the degree of A.B. (See pages 37 to 56.)

Special courses are arranged for such persons as may be deemed by the Faculty qualified for work in the School.

SYNOPSIS OF THE REQUIREMENTS FOR A.B. AND B.D.

[The unit here used (called the "term hour") is equivalent to one program hour a week for a half-year.]

	TERM HOURS
LANGUAGE (Greek, Latin, German, French; each student to take <i>three</i>)	18
SCIENCE (Mathematics, Physics, and Biology)	18
HISTORY (Civil and Religious)	15
BIBLE	24
PHILOSOPHY (Psychology, Logic, Ethics, Systematic Theology, etc.)	24
SOCIOLOGY (Law, Economics, and Applied Christianity) .	15
ENGLISH (Rhetoric, Literature, Oratory, and Homiletics) .	42
PHYSICAL TRAINING	2
Electives, amounting to	24
Total term hours	182

SYNOPSIS OF THE FOUR-YEAR COURSE FOR B.D.

[The unit here used (called the "term hour") is equivalent to one program hour a week for a half-year.]

	TERM HOURS
BIBLE	30
PHILOSOPHY (Logic, Ethics, Theology)	21
ENGLISH (Rhetoric, Literature, Oratory, Homiletics)	36
HISTORY (Civil and Religious)	15
APPLIED CHRISTIANITY	6
PASTORAL CARE	3
PHYSICAL TRAINING	2
FREE ELECTIVES	9
Total	122

For all theological students the major instructor and official adviser on general matters relating to college affairs is the Dean of the Theological School, or some appointed representative from the Theological Faculty.

Departments of Instruction

OLD TESTAMENT

PROFESSOR WOODBRIDGE

The aim is to secure, chiefly through the English version, a working knowledge of the Old Testament, and an appreciative acquaintance with Hebrew thought and life. The course includes a history of the book; a history of the people Israel from whose literature the book was made; a history of the development of the literature; followed by critical and interpretative study. Hebrew is offered as the foundation of a more critical study.

SUBJECTS

I. (History of Religions I.*) Life and literature of the Hebrew people from the beginnings to the Greek period. *Mon., Wed., Fri., 4.00.*

PROFESSOR WOODBRIDGE

* See page 174.

[2. (History of Religions 2.*) A study of Jewish life in contact with Hellenistic culture and Roman provincial administration. (*Three hours for a half-year, to be arranged.*) PROFESSOR HARMON]

3. (Hebrew 1.†) The Hebrew Language: the elements of grammar. Translation of portions of Genesis, of the book of Ruth, and other selections. *Tu., Th., Sat., 11.45.* PROFESSOR WOODBRIDGE

4. (Hebrew 2.†) Hebrew Language: syntax, critical readings from the historical books, from the prophets, and the Psalms. *Three hours a week.* PROFESSOR WOODBRIDGE

5. Principles of criticism; critical analysis of Genesis; the pre-exilian prophets; Isaiah, with special reference to authorship and date; the development of Hebrew law; the prophets of the exile; post-exilian literature. *Tu., Th., Sat., 8.45.* PROFESSOR WOODBRIDGE

NEW TESTAMENT

PROFESSOR HARMON

1. New Testament History (History of Religions 3*). This subject covers the history of the Jews during the lifetime of Jesus, including their relations to the Roman government, and their political, social, and religious institutions and customs. It also includes the origin, extension, and development of the Christian Church until the destruction of Jerusalem. Incidentally these results form the historical background for the study of the New Testament literature.

2. New Testament Criticism. This subject covers the investigation of the origin and character of the Gospels and the apostolic literature, the aim being to acquire an understanding of the general conditions essential to the correct interpretation of the New Testament writings.

3. New Testament Exegesis. The work consists of lectures on methods of interpretation, followed by an examination of the Synoptic Gospels in the Greek, with the object of acquiring a knowledge of the ministry and teachings of Jesus. It includes also a study of the Pauline Epistles and the Johannine literature.

* See page 174.

† See page 77.

SUBJECTS

1. History of the Beginnings of Christianity. A study of the times of Jesus, of the rise and growth of the apostolic church, and of the origin of its literature. *Mon., Wed., Fri., 3.00.* (F) PROFESSOR HARMON
2. New Testament Criticism. *Mon., Wed., Fri., 9.45.* (S) PROFESSOR HARMON
3. New Testament Exegesis and Theology. *Mon., Wed., Fri., 11.45.* PROFESSOR HARMON
4. New Testament Greek. *Three hours a week for a year, to be arranged.* PROFESSOR HARMON

HISTORY OF RELIGIONS

PROFESSORS WOODBRIDGE, HARMON, AND KNIGHT

The department of History of Religions deals with a special phase of the general subject of history, showing the growth of superstition and religion, and their relation to civilization — including politics, social life, philosophy, literature, art, and personal character.

SUBJECTS

1. (Old Testament 1.*) Life and literature of the Hebrew people, from the beginnings to the Greek period. *Mon., Wed., Fri., 4.00.* PROFESSOR WOODBRIDGE
- [2. (Old Testament 2.†) A study of Jewish contact with Hellenistic culture and Roman provincial administration. *Three hours for a half year, to be arranged.* PROFESSOR HARMON]
3. (New Testament 1.‡) History of the beginnings of Christianity. A study of the time of Jesus, of the rise and growth of the apostolic church, and of its literature. *Mon., Wed., Fri., 3.00.* (F) PROFESSOR HARMON
4. Non-Christian Religions. Comparative studies of religion and civilization in ancient Egypt, Chaldea, Greece, Rome, and Germany, and in ancient and modern India, China, Japan, and Turkey. *Tu., Th., Sat. 8.45.* (F) PROFESSOR KNIGHT
5. History of the Church, including the sects, from the apostles to the present time. *Tu., Th., Sat., 9.45.* PROFESSOR KNIGHT

* See page 172.

† See page 173.

‡ See page 173.

ETHICS

PROFESSOR TOUSEY

Analytical and inductive study of the moral experience is followed by an attempt to develop a correct moral theory. Attention is given to the more important questions in ethical philosophy. Such doctrines as sentimentalism, hedonism, utilitarianism, intuitionism, naturalism, and determinism are studied, not merely in a critical spirit, but with a view to discover the special aspects of truth for which they stand.

A course is also offered in the history of ethical speculation, and of the development of moral customs and ideas. Finally, the bearing of ethical theory on the leading problems of the individual and the social life is discussed, particular attention being given to such subjects as duties, rights, education, charities, State aid, temperance, socialism. Some attention is also given to casuistry. The course concludes with a review of what is distinctively known as Christian ethics. The instruction throughout is shaped to bring into clearness the fundamental principles of morality, and to show their importance in the conduct of the personal life and in the moral guidance of others.

SUBJECTS

1. (Philosophy 6.*) Theoretical Ethics. The moral nature; freedom of the will; moral judgments; theories of the standard; the moral ideal; Christian ethics; ethics and theism. *Mon., Wed., Fri., 10.45.* (F)

PROFESSOR TOUSEY

2. (Philosophy 7.†) Practical Ethics. Moral theory as bearing on the individual and social life; special consideration of duties, rights, temperance; charities; moral pathology; penology. *Mon., Wed., Fri., 10.45.* (S)

PROFESSOR TOUSEY

3. (Philosophy 8.†) Ethics, Historical and Critical. History of ethical speculation; development of moral customs and ideals. *Three hours, to be arranged.* (F)

PROFESSOR TOUSEY

PHILOSOPHY OF THEISM

PROFESSOR TOUSEY

At the outset some attempt is made to articulate the Final

* See page 78.

† See page 79.

Problem, and to indicate the various answers that have been proposed. The different modes of the theistic argument are then reviewed, their grounds scrutinized, and their logical value considered. This imposes a patient hearing and painstaking judgment of objections which have found expression in earlier and later times. In treating of the office of reason in matters of belief, and of the limits of the understanding, both mysticism and agnosticism come in for notice; and in discussing the attributes of God, and His relation to the universe, pantheism and pessimism receive somewhat special attention. The general method here, as in Ethics, is to employ treatises available as texts, and to supplement them by means of annotations, lectures, and parallel readings, the aim being to lead the student to the sources of evidence, and to establish a vigilant and correct method of inquiry. Much importance is attached to the dialectic of the class-room as securing a ready command of resources, and as a corrective of ill-defined notions and hasty inference. An effort is made to treat subjects in the light of contemporary criticism and the latest developments of science; and, by testing and chastening conclusions, to provide against fanaticism on the one hand and frivolity of judgment on the other.

SUBJECT

1. (Philosophy 15.*) The final problem; limits of the intelligence; Final Cause in nature; evidences of a moral order; modes of theistic argument; intuitivism; anti-theistic theories. *Mon., Wed., Fri., 11.45.*

PROFESSOR TOUSEY

THEOLOGY

PROFESSOR KNIGHT

The purpose is, primarily, to assist the student to think independently on theological subjects, and to abide in the consequences. In pursuing this purpose, attempt is made to co-ordinate the products of biblical theology, religious history, natural theology, ethics, and, indeed, of all the proper sources of material, and thus to produce a scientific theology. It is believed

* See page 79.

that such a system will deserve and receive the student's confidence, and will enlist his energies.

The method includes several stages:—

1. The history of important doctrines and creeds, as a general introduction.

2. *a.* Special history of the topic in hand, with analysis and classification of opinions and theories according to their logical relations.

b. The collection of the facts, so far as given in the present state of knowledge, and the criticism of the theories on the basis of the facts.

c. The organization of the results into a scientific product.

d. Illustrative applications to practical problems,—ecclesiastical, political, social, and personal.

SUBJECTS

1. Historical Introduction. *Mon., Wed., Fri., 4.00. (s)*

PROFESSOR KNIGHT

2. (Philosophy 16.*) Theology; anthropology; soteriology; eschatology; critical study of modern doctrines. *Tu., Th., Sat., 11.45.*

PROFESSOR KNIGHT

APPLIED CHRISTIANITY

PROFESSOR WOODBRIDGE

The topic of study is the ministry of the church in the world. The purpose is to secure the efficiency of pastor and church in the promotion of the Christian life. The course covers one year, and is a series of lectures, supplemented by investigation. The lectures deal, in order, with the foundation principles of the ministry of the church, the proper scope and limitations of its work under these principles, efficient organization and best instrumentalities, and the specific duties which present-day life and problems make imperative. The course in investigation requires of the student a special study of some given community in its practical attempts at solving its own

* See page 80.

problems. He visits the institutions of religion and philanthropy, personally observes their work, and makes written report of the same for discussion in the class-room.

SUBJECTS

1. The Efficient Ministry: fundamental principles; instrumentalities and organization; individual and social duties; practical methods.
Hours to be arranged.

PROFESSOR WOODBRIDGE

HOMILETICS AND PASTORAL CARE

PROFESSOR LEONARD

The inclusive subject in this study is the Work of the Minister.

A. The Work of the Minister as a Leader in Thought, with special reference to preaching, consists of studies in constructive homiletics; the varying conception of preaching as determined by the person and the time; helps in the preparation of sermons from the study of history, literature, and character; the preparation and delivery of sermons; practice in extempore discourse; the cultivation of power in preaching; the study of representative preachers.

The above outlines the work of Homiletics 1 (Eng. 27*) and Homiletics 2.

An elective is offered in the History of Preaching, with reference to the relation of the pulpit to the life and the thought of the time. This study is made the basis of the needs of the modern pulpit.

An elective is offered on the preacher's use of the Bible: as history; as biography; as parabolic teaching; as poetry; as epistolary discourse. This study is designed for students who have taken biblical literature and interpretation.

B. The Work of the Minister as a Leader in Worship: as a permanent state of mind and heart; as a concrete expression of the person and the inner life; as a function of Christian society. Particular attention is given to the essential elements of public worship: the lesson; the principles of belief, or

* See page 69.

"confession with the mouth"; the prayer; the offering; the sermon; the elements of worship in preaching; the sacraments.

An elective is offered on the principles which underlie all acts of worship; in what way the subjective and objective principles may be co-ordinated. This work includes a careful study of liturgies, and all available forms of worship in their affirmative, conservative, and educative uses. This study is open to advanced students in Church History.

C. The Work of the Minister as a Leader in Social Service. This part of the study has particular reference to pastoral care, and includes the minister's relation to a single parish, and to a single community. Careful study is invited to the intellectual, spiritual, and social qualifications of the minister; modern methods of church-work; the conduct in the special offices of religion, as in baptism, confirmation, the Lord's Supper, the marriage service, the burial of the dead. The aim in this work is the practical preparation of the minister for his sacred duties.

An elective is offered in Religious Pedagogy, consisting of formal instruction in the class-room, and lectures on the principles of education; methods in religious teaching; graded instruction in Sunday-schools; nature study for religious training; the psychology of religion. Particular attention is given to the training of teachers. Students who take this subject come under the instruction of several professors and non-resident lecturers.

An elective is offered in Parish Administration. The provision of this study of the minister as an administrator, and as a student of system, is a forward step in recognition of the fact that the ministers of to-day must be trained in business methods.

In special cases the work of the school will be so arranged that students may become assistants, for three months at a time, to pastors designated by the Faculty, or by the head of the departments. The requirement is that this work shall be a study of conditions and methods in the individual parish and community, a report on the work in detail, and a thesis based upon the facts in the case.

SUBJECTS

A

1. (English 27.*) Inductive Homiletics, *Hours to be arranged.*
PROFESSOR HARMON
2. Constructive Homiletics *Tu., Th., Sat., 9.45.* PROFESSOR HARMON
- [3. The Pulpit and the Life of To-day. *Hours to be arranged.*
PROFESSOR LEONARD]
- [4. The Preacher's Use of the Bible. *Hours to be arranged.*
PROFESSORS LEONARD AND WOODBRIDGE]

B

- [5. Worship as Life and the Expression of Life. *Hours to be arranged.*
PROFESSOR LEONARD]
- [6. A Study of the Principles of Worship: especially adapted to advanced students and clergymen. *Hours to be arranged.*
PROFESSORS LEONARD AND KNIGHT]

C

- [7. Pastoral Care, or the Minister in his Relation to a Single Parish or Community. *Tu., Th., Sat., 8.45. (s)* PROFESSOR LEONARD]
- [8. Religious Pedagogy: especially adapted to clergymen and qualified Sunday-school teachers. *Hours to be arranged.*
In care of PROFESSOR LEONARD]
9. Parish Administration. *Hours to be arranged. (s)*
In care of PRESIDENT HAMILTON

* See page 69.

SIX-YEAR COURSE

A detailed synopsis follows of the Course of Six Years, arranged for one who enters with Greek * and Latin, and leading to degrees A.B. and B.D. For particulars concerning the several subjects, see pages 67 to 99, and for the strictly professional departments, pages 172 to 180.

First Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Mathematics	3	88	Mathematics	1(or 2)	88
Physics	1	89	Physics	1	89
Greek	2	75	Greek	2	75
French		71	French		71
or German		70	or German		70
English	1	67	English	2	67
Physical Training		98	Physical Training		98

Second Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Philosophy	1(or 2)	78	Oratory	1	69
History	1	81	History	1	81
Biology	1	94	Biology	1	94
or Chemistry	1	92	or Chemistry	1	92
German		70	German		70
or French		71	or French		71
English (<i>elective</i>)		68	English (<i>elective</i>)		68
Physical Training		98	Physical Training		98

Third Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Old Testament	1	172	Old Testament	1	172
New Testament	1	174	New Testament	2	174
English (<i>elective</i>)		68	English (<i>elective</i>)		68
Philosophy	3	78	<i>Two electives</i>		
Oratory	2	69			

* Those who enter with no Greek must take New Testament Greek in place of one of the free electives, and may substitute advanced Latin for Greek 2 in the following statement.

Fourth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	3	174	New Testament	3	174
History of Religions	5	174	History of Religions	5	174
Philosophy	6	78	Philosophy	7	79
English (<i>elective</i>)		68	English (<i>elective</i>)		68
Old Testament	5	173	<i>One elective</i>		
			Old Testament	5	173

Fifth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Homiletics	1	180	Homiletics	1	180
Applied Christianity		177	Applied Christianity		177
Philosophy of Theism		176	Philosophy of Theism		176
History of Religions	4	174	<i>Two electives</i>		
Political Science	1	85			

Sixth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Theology	2	177	Theology	2	177
Homiletics	2	180	Homiletics	2	180
Public Law	1	83	Pastoral Care		180
<i>Two electives</i>			<i>Two electives</i>		

FOUR-YEAR COURSE

A detailed synopsis follows of the Course of Four Years, arranged for one who enters without Greek,* and leading to the degree of B.D.

First Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	4	174	New Testament	4	174
Old Testament	1	172	Old Testament	1	172
History	1	78	History	1	78
English	1	67	English	2	67
English (<i>elective</i>)		68	English (<i>elective</i>)		68
Physical Training		98	Physical Training		98

Second Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	1	173	New Testament	2	173
Old Testament	5	172	Old Testament	5	172
English (<i>elective</i>)		68	English (<i>elective</i>)		68
History of Religions	5	174	History of Religions	5	174
Philosophy	3	78	Oratory	1	69
Physical Training		98	Physical Training		98

Third Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
New Testament	3	174	New Testament	3	174
Homiletics	1	180	Homiletics	1	180
Philosophy	6	78	Philosophy	7	79
History of Religions	4	174	<i>Two electives</i>		
Oratory	2	69			

Fourth Year

FIRST TERM	No.	See Page	SECOND TERM	No.	See Page
Homiletics	2	180	Homiletics	2	180
Theology	2	176	Theology	2	177
Philosophy of Theism		176	Philosophy of Theism		176
Applied Christianity		177	Applied Christianity		177
<i>One elective</i>			Pastoral Care		180

* One who enters with Greek and Latin has a larger range of electives.

Supplementary Information

In addition to the information given on pages 167 to 183, the following is of interest to divinity students.

RELIGIOUS OBSERVANCES

The students in the Crane Theological School attend daily morning prayer in Goddard Chapel; and religious services, in the care of the students, are held in Miner Hall from time to time.

SUPPLEMENTARY LECTURES

Lectures which bear upon the general work of the Christian ministry, and upon special subjects of study, are given at intervals throughout the year by well-known clergymen and others of the vicinity.

The most noted divines of New England officiate every Sunday within easy distance, and may be studied by the student in respect to their teachings and their methods. It is the policy of the school to encourage the judicious use of these important instrumentalities of culture.

LICENSE TO PREACH

The regular time for applying for licensure is a year and a half before graduation. Before that time the members of the Theological School are not allowed to preach.

BUILDINGS FOR THE USE OF THE THEOLOGICAL SCHOOL

Miner Theological Hall contains eight large, well-lighted, and well-ventilated lecture-rooms, and a special room for the meetings of the Faculty. Until other buildings are provided, one of the rooms in this hall is used for the historical and reference libraries, and one is appropriately furnished for the religious services of the school. A third room in the same hall is furnished as a parlor, and is known as the Maria Miner Reception Room.

Paige Hall, the dormitory of the Theological School, contains thirty-six single rooms, heated by steam and lighted by gas. Each room is provided with all necessary furniture — except sheets, blankets, pillow-cases, and towels.

EXPENSES AND PECUNIARY AID

Students in the Theological School are charged *one hundred dollars* annually for tuition. This charge includes the privilege of occupying a room in Paige Hall, and provision for heating and caring for it.

The following scholarships are assigned exclusively to theological students; certain prizes are also available under conditions, especially as described on pages 206 to 209 of this catalogue.

The General Convention of Universalists aids students by free scholarships, not exceeding one hundred and twenty-five dollars a year to any one student, subject always to the recommendation of the Faculty of the Theological School. Those students, also, who are in the regular course are permitted to preach, under the direction of the Faculty, during the year-and-a-half preceding their graduation. In this way they may add to their pecuniary resources.

THE GREENWOOD SCHOLARSHIP.—The income of one thousand dollars, bequeathed by the late Mrs. Eliza M. Greenwood, of Malden, is given to that member of the advanced class in homiletics who, maintaining a high standard of work as a student, has made in all the work in Homiletics and Oratory the most satisfactory progress.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE SCHOLARSHIP.—The income of two thousand dollars, bequeathed by the late John M. Sprague, is appropriated to the aid of needy and deserving students in the Crane Theological School, preference being given to any student, otherwise eligible, who is a direct descendant of the donor's father, John Sprague.

THE DOCKSTADER SCHOLARSHIP.—The income of ten thou-

sand dollars, given by George A. Dockstader, of New York, is appropriated to the aid of needy and worthy students.

The following scholarships amount to fifty dollars each :—

THE WHITTEN SCHOLARSHIP.—Founded by Mrs. Maria F. Whitten, of Cambridge.

THE HOLT SCHOLARSHIP.—Founded by Miss Celia Holt, of Stafford, Conn.

THE HENRY L. BALLOU SCHOLARSHIP.—Founded by Susan Ballou, of Woonsocket, R. I.

TWO BRADLEE SCHOLARSHIPS.—Founded by the late Caleb D. Bradlee, D.D., of Brookline.

TWO GOLDTHWAITE SCHOLARSHIPS.—Founded by the late Willard Goldthwaite, of Salem.

THE SARAH ELIZABETH PERKINS SCHOLARSHIP.—Founded by James D. Perkins, of Brooklyn, N. Y.

TWO LUCIUS R. PAIGE SCHOLARSHIPS.—Founded by the late Lucius R. Paige, D.D., of Cambridge, Mass.

TWO ANN M. PAIGE SCHOLARSHIPS.—Founded by the late Ann M. Paige, wife of the late Rev. Lucius R. Paige, of Cambridge, Mass.

The income of five hundred dollars, given by REV. JOHN VANNEVAR, is used in the purchase of books for the Department of Homiletics.

General Information

REGISTRATION

Every student is required to file at the office of the Registrar a plan of study for the term, on the opening day of the term.

The registration is made in triplicate on blanks furnished for the purpose, one copy to be kept on file by the Registrar, one by the Dean, the third to be used, in case of Freshmen, by advisers, and in case of Special students and members of the upper classes, by major instructors. Each student also furnishes such data as are required by the Registrar for class lists. Registration is made for the first half-year in accordance with the following schedules:—

I. FOR STUDENTS IN THE SCHOOL OF LIBERAL ARTS, THE CRANE THEOLOGICAL SCHOOL, AND THE GRADUATE SCHOOL :

8:30-9:30 A.M. — All students registering for the first time as candidates for A.B. or B.S., or as Special students, will pay the registration fee of five dollars at the Bursar's office.

9-10 A.M. — All students receive registration blanks and notice of appointment with major instructor or adviser, at the Registrar's office.

10-12 A.M.—All students, except Freshmen, meet their major instructors in accordance with appointments.

12-1 P.M.—Freshmen meet their advisers in accordance with appointments.

2-4 P.M.—Students obtain the necessary signatures and file program cards at the Registrar's office. The approval of the major instructor or adviser is to be obtained after the separate subjects have been approved by the respective instructors.

On Friday, the second day of the term, all classes meet for assigned periods of fifteen minutes. See below, under Program.

Regular program appointments are in force on Saturday.

II. FOR STUDENTS IN THE ENGINEERING SCHOOL:

9:30-10:30 A.M.—All students registering for the first time will pay the registration fee of five dollars at the Bursar's office.

10-12 A.M.—All students in this School obtain blanks and file programs at the Registrar's office.

11 A.M. — All Freshmen assemble in the chapel for instructions concerning registration, and information regarding courses.

On Friday, the second day of the term, Junior, Sophomore, and Freshman classes meet instructors for making of divisions and general instruction.

Regular program appointments are in force on Saturday.

Consultations concerning programs for the second half-year are held by appointments with advisers and major instructors during the examination period. On the first day of the second term, between 9 and 12 o'clock, students in all departments file their individual programs.

Recitations begin in accordance with the regular program on Tuesday, the second day of the term.

A registration fine of two dollars is imposed upon students in all departments who fail to register in person during the time prescribed above. This fine must be paid to the Bursar before registration can be permitted. This rule does not apply to students registering for the first time. Students are not recognized as members of classes until they have met all requirements of registration.

During the hours set apart for registration, instructors may be seen for consultation and for approval of plans of study, in rooms to be announced by posted bulletins.

PROGRAM LIMITATION

Plans of study are subject to the following regulations:

I. FOR STUDENTS IN THE SCHOOL OF LIBERAL ARTS AND THE CRANE THEOLOGICAL SCHOOL:

No Freshman shall take a program of more than sixteen term hours for the first half-year; nor shall a program of more than fifteen term hours

be taken by any student who has received for the preceding half-year grade L in subjects aggregating three term hours, or grade C in subjects aggregating more than six term hours. But a student who has failed in a subject may repeat that subject, provided his program is not thereby increased to more than eighteen term hours.

A program in excess of eighteen term hours shall not be allowed except by special permission of the Faculty.

Physical Training is disregarded in the consideration of program limitation.

II. FOR STUDENTS IN THE ENGINEERING SCHOOL:

The Freshman program is prescribed. Permission to vary the Freshman program, to take a program in excess of nineteen term hours, or to take a subject out of course, must be obtained by petition to the Committee on Promotions.

PROGRAM

The unassigned subjects in the five o'clock column of the program are so far as possible assigned at a meeting in Ballou 4 at 12 M. on the second day of the first half-year, and at the same hour on the first day of the second half-year. Every student concerned is required to be present at this time, either in person or by a proxy furnished with a complete tabular program of class engagements. Every instructor concerned is expected to be present in person. These appointments supersede all others. No assignment or change of hour is official except as posted by the Committee on Program.

Any instructor is permitted, after the second full week of a term, to transfer a subject to another program hour, under the following conditions: (a) all students taking the subject must have the new hour free; (b) previous notice must be given to the Committee on Program; (c) the change, if finally made, must be reported at the College Office.

If such a change can be made in two consecutive years, the subject may be permanently transferred to the new hour.

REVISED SCHEDULE OF HOURS

A revision of the program is contemplated, to take effect in September, 1910. All college work except Physical Training

will close at 4 P.M. Classes will begin at 8.45 A.M., with many laboratory courses opening at 8 A.M. Chapel exercises will be held at 10.45 A.M.

PROMOTIONS

All candidates for degrees are classified as Freshmen until they have removed all entrance conditions.

Candidates for the degree of Bachelor of Arts, or Bachelor of Science in the School of Liberal Arts, must have received, for promotion to the Sophomore class, a credit of not less than twenty-seven term hours, and for promotion to the Junior class a credit of not less than fifty-seven term hours. To become a member of the Senior class, a student must have completed all the prescribed work, and have credit for not less than eighty-seven term hours.

Candidates for the degree of Bachelor of Science in the Engineering School must have received, for promotion to the Sophomore class, a credit of not less than twenty-nine term hours; for promotion to the Junior class a credit of not less than sixty-four term hours; and for promotion to the Senior class a credit of not less than ninety-nine term hours.

GRADES OF SCHOLARSHIP

A student's rank is officially recorded by letters, as follows : **A**, excellent; **B**, good; **C**, fair; **L**, passed with low standing; **F**, work incomplete or unsatisfactory; **FF**, complete failure.

The mark **F** imposes a condition which must be removed at a date to be determined by the Committee on Promotions of the proper Faculty on consultation with the instructor. In case a mark of **F** is not removed at the date thus determined, the entry will be changed to **FF**. The student must then discontinue any dependent subjects which he is taking, and can obtain a clear record only by repeating the subject in which **F** was given. The responsibility for the removal of the condition rests with the student, who is required to make the necessary arrangement with the instructor and to present at the office a statement from the instructor that the work has been accomplished.

Reports of the work of Freshmen are sent to parents after the first term. Reports for the year are sent in July to all.

Except as above stated, marks are not issued from the office.

MAJOR SUBJECTS

Every candidate for the degree of Bachelor of Arts shall choose a major subject before the beginning of the Sophomore year.

A change of major subject may be made not later than the end of the Junior year, by vote of the Committee on Promotions on petition approved by the two major instructors concerned.

A second major subject may be granted not later than the end of the Junior year, under the same conditions.

HONORS

FINAL HONORS will be conferred at Commencement upon any member of the graduating class in the College of Letters who shall have attained Grade A in approved subjects aggregating not less than eighteen term hours in a major department, and an average of Grade B in the collateral subjects. Subjects marked in the catalogue with an asterisk (*) will not count for Honors. Those marked with a double asterisk (**) will be counted for Honors only when special requirements, to be defined by the instructors, have been complied with. Final Honors will be conferred only upon recommendation of the head of the department in which Honors are desired.

FINAL HONORS IN ELECTRICITY will be conferred at Commencement upon any member of the graduating class in the Engineering courses who shall have complied with the following conditions:—

In the two years immediately preceding graduation:—

1. He must have attained Grade A in the equivalent of six hours a week for a year in the subject.
2. He must also have attained Grade A in extra work in this or a cognate subject equivalent to three hours a week for a year.
3. He must have attained Grade B in the average of all his studies.

HONORABLE MENTION will be made in the Commencement program and in the annual catalogue of a student who has attained, during the two years immediately preceding graduation, Grade A in nine term hours and not less than Grade B in three additional term hours of approved work in one department. Subjects marked in the Catalogue with an asterisk (*) or with a double asterisk (**) are under the conditions explained above as applying to Final Honors.

Candidates for Honorable Mention are expected to report to the Office on or before May 1 the department or departments in which they look for such distinction.

ADMISSION FROM OTHER COLLEGES

Students entering Tufts College, after pursuing study in any other college of equal rank, and being honorably dismissed therefrom, are credited with the number of hours of work actually done toward the requirements of Tufts College, as certified by the proper authorities of the college from which the student comes. Such students must present satisfactory certificates showing the amount and character of work already accomplished, in order to obtain credit on a course of this College.

SPECIAL STUDENTS

Students who are not candidates for a degree, and who wish to pursue a special course of cognate studies, will be admitted to the College, subject to the following regulations:—

1. Every Special Student shall choose a major department, and shall make up a plan of study under the direction and subject to the approval of the major instructor.
2. The student shall satisfy the instructor in each subject included in the approved plan of study that he is able to pursue the work.
3. First-year Special Students are limited to sixteen program hours, and thereafter the same rules apply to them as to regular students in the School of Liberal Arts. (See page 188.)
4. A Special Student, on leaving College, shall be entitled to a certificate giving the grade attained in each subject pursued, and signed by the President and the Registrar.

TERMS AND VACATIONS

Commencement occurs on the third Wednesday in June, and the college year begins on the Thursday following the third Wednesday in September. The year is divided into two terms of eighteen weeks each. There are no college exercises during a recess of four days at Thanksgiving, twelve days at Christmas, four days at the mid-year period, and seven days beginning with the Wednesday evening preceding the nineteenth of April (see calendar, pages 3 and 4). Washington's Birthday and Memorial Day are holidays. An examination period of four days is held at the close of each half-year, during which time the daily class exercises are suspended.

Students are required to report in person at the Registrar's office within two hours after the last program appointment of the student preceding each vacation of more than a single day, except at the mid-year period; and within two hours before the first program appointment following such vacation.

This registration must take place between 8.45 A.M. and 5.15 P.M. A fine of two dollars will be imposed on each student who shall fail to report as above provided. The regularly appointed registration of studies at the beginning of each term shall be construed as reporting in person.

ABSENCES

Students are required to notify the Registrar at the beginning of an absence from any cause involving more than three consecutive program appointments. This report may be made in advance, and should state the cause of absence and its probable duration. A similar report is to be made before entering upon college work after the absence.

These reports are for the information of the college authorities, and do not excuse the student from chapel attendance, nor from his obligations to the various instructors.

For the first failure to make such a report a fine of fifty cents shall be levied, and for each subsequent failure a fine of two dollars. In case of the absence of any student organization

numbering not less than ten persons, notice may be given for all by one authorized representative.

No student organization shall be allowed to make engagements involving absence from college exercises unless such engagements are approved by the appropriate committee of the Faculty.

A report filed in accordance with these regulations shall not take the place of the required registration before and after vacations of more than a single day.

Absence from Examinations.—Students absent from examinations and requiring special examinations to make up for such absence are charged two dollars for each special examination.

OFFICE HOURS

The President may be found in the Faculty Room in the morning, from 8.45 to 9.45. The Dean of the School of Liberal Arts is in his office in Ballou Hall, and the Dean of the Engineering School in his office in the Bromfield-Pearson Building, throughout the forenoon, except for class engagements. The office of the Registrar and Secretary is open every morning, from 8.45 to 12.45, and every afternoon except Saturday, from 2.00 to 5.00. The Bursar will be in his office in Ballou Hall during term time, Monday, Wednesday, Thursday and Friday mornings, from 8.30 to 12.00 o'clock.

RELIGIOUS OBSERVANCES

Goddard Chapel, erected in 1882-83, is the gift of Mrs. Mary T. Goddard, as a memorial of her husband, the late Thomas A. Goddard. Morning prayers are held daily, at which attendance is required. The care of the pulpit on Sunday devolves upon the President. A trained choir, composed of men and women students, sings on Sunday. Attendance upon Sunday service is voluntary.

The RUSSELL LECTURE, established in accordance with a bequest of the late James Russell of Arlington, is delivered before the Trustees, Faculty, and students, on the second Sunday

of the college year, by either a clergyman or a layman, on a subject prescribed by the testator.

Two subjects are presented, in alternate years.

The subject for 1909 was "*The Sufficiency of the Promises of the Gospel to meet the Reasonable Wants of Man both in Time and in Eternity.*"

The subject for 1910 is "*The Importance of Christian Faith and Belief in the Formation of the Character of the Good Citizen and the Good Man.*"

TUFTS COLLEGE STUDIES

A publication called "Tufts College Studies" has been established, as a means of presenting to the world the results of original work done in the different departments of the College. The numbers, which are issued as material is ready, are distributed to educational institutions and learned societies. The College desires to establish regular exchanges of these Studies with all publishing institutions at home and abroad. Correspondence regarding exchanges should be addressed to the Librarian of Tufts College. One volume and two numbers of a second volume of the scientific series have been issued, and a single number of the English series. The editorial board of TUFTS COLLEGE STUDIES for the current year is made up of the President of the College and Professors Knight, Hooper, Kingsley, and Wade.

ATHLETICS

The supervision of all athletic sports is vested in a Board of Directors of Athletics, consisting of nine members, three of whom are appointed from the Faculty, three from the Alumni, and three elected from the undergraduates. This board through its sub-committees controls the expenditures of all moneys, the hiring of coaches, the arranging of games, the eligibility of players, and generally seeks to raise all college sports to a level of genuine usefulness. The Director of the Gymnasium limits the candidates for college teams to those students who have shown by a physical examination that they are qualified to engage in strenuous exercise.

EXPENSES

The charge for instruction in the School of Liberal Arts is *one*

hundred and twenty-five dollars a year, or *five hundred dollars* for the full course whether it be completed in three, four, or more years. A registration fee of five dollars is charged to all students entering the School of Liberal Arts or the Engineering School.

The charge for instruction in the Engineering School is *one hundred and fifty dollars* a year, or *six hundred dollars* for the course.

In the case of students admitted to advanced standing, the fees will be based upon the amount of work done under the direction of Tufts College.

No part of the fees and charges for a term is returnable to the student if he leaves during the term.

Students in the chemical laboratories are charged for breakage, and *four dollars* a term for materials used. A fee of *two dollars and a half* a term is required for each laboratory course in the Department of Biology.

Half room-rent, including heat, ranges from twenty-five to ninety-one dollars, in the several dormitories for men. In those for women, half room-rent ranges from thirty-seven to eighty-five dollars. Students furnish their own rooms. Any special damage done by students to college property is charged in the term bills. Rooms in the college halls will be open for occupancy of students on and after the Wednesday of the week preceding the opening of the college year, and will be closed on the Wednesday after Commencement. Non-resident students in all departments, except the Medical and Dental Schools, are subject to a fixed annual charge of ten dollars.

A place of study for non-resident women students is provided in Ballou Hall. Men students may obtain the use of day-rooms in the dormitories by arrangement with the Bursar, on payment of a moderate fee, which is added to the regular non-resident charges.

Payment of tuition, room rent, and other charges in all departments of the College is made in advance at the beginning of each half-year, on or before October first and March first.

All college charges are payable to the Bursar, and all arrangements with regard to rooms are to be made with him. The Bursar must certify that all college charges have been met before a student can receive his degree or a letter of honorable dismissal.

The Executive Committee of the Trustees has power to order the suspension or dismissal of a student for failure to keep his bills promptly paid, or for other good and sufficient cause.

By an arrangement with the Somerville Hospital, resident students are assured free hospital treatment in case of illness, during their entire course, at a cost of two dollars a year.

The cost of table board is from \$4.00 to \$5.00 per week. Other expenses, such as for light, furniture, books, clothing, washing, and incidentals, vary with the economy of each student. Books and instruments required for the courses in Engineering cost from fifteen to twenty-five dollars a year.

The following estimates represent the fixed annual expenses, not including room-rent or the non-resident fee:—

	School of Liberal Arts	Engineering School
Tuition	\$125.00	\$150.00
Physical Training, including gymnasium and grounds	10.00	10.00
Reading-room	1.00	1.00
Hospital	2.00	2.00
Average board, \$4.50 a week (36 weeks) . .	162.00	162.00
Total	\$300.00	\$325.00
Registration fee, at the beginning of the course	5.00	5.00

Special students in the School of Liberal Arts pay the initial registration fee and \$20.00 a term for each subject of three hours a week or less, together with the usual laboratory fees.

STUDENTS' DRAFTS

The College issues drafts for the use of students in books of twenty-five to fifty dollars. These are freely negotiable in the college community and are becoming so in all banks and stores in greater Boston. No commission is charged, and the holder is protected from loss or theft. The drafts are for sale at the Bursar's office and at the College Book Store.

INSURANCE

Arrangements may be made through the Bursar's office whereby students in any of the dormitories can insure their personal effects, including books, furniture, and wearing apparel. The cost of such insurance is fifty cents for one hundred dollars for one year. Insurance is placed only in multiples of one hundred dollars, no risk is taken for less than one hundred dollars, and all premiums are payable in advance.

THE DORMITORIES

The halls for the accommodation of students are seven in number. East, West, Dean, Paige, and Curtis Halls, for men, are arranged with convenient rooms in suites, are warmed by steam, lighted by gas or electricity, and have good modern plumbing. These halls provide rooms for two hundred and fifty men. Metcalf Hall, with accommodations for thirty-two women students, is a gift to the College by Mr. Albert Metcalf, of Newton. The first floor contains the rooms of the matron, a reception-room, cloak-room, reading-room, and dining-room. The second and third floors have pleasant rooms for students, with ample bath and toilet conveniences on each floor. In the wing is the kitchen on the first floor, the servants' room on the second. Every safeguard of health is provided. The Start House furnishes another home for women, with a matron, and rooms for thirteen students.

Women students cannot be received unless they reside in the dormitories or with their families.

REGULATIONS CONCERNING COLLEGE ROOMS

The annual assignment of rooms will take place in the month of May, at a time appointed by the Bursar, due notice being given upon the official bulletin board. Students occupying any room may retain it for the following academic year by signing a new room-agreement. All rooms not thus provided for will be offered for rent to members of the three upper classes. Rooms not assigned at the annual allotment will be open for choice to members of the entering class, in the order of application.

The right to occupy a college room is given only to the

student or students to whom it is assigned: neither exchanges nor transfers of rooms are allowed, except by consent of the Bursar.

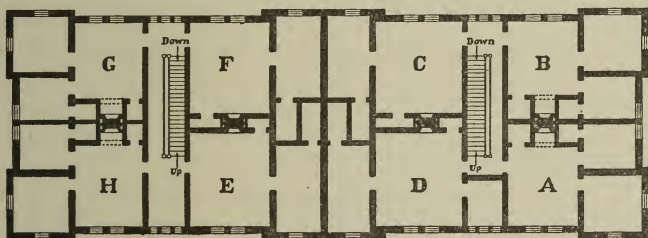
All men's rooms are for two students; except East 3, 12, 17, 22, 27, and 32, West 16½, and Curtis 4 and 12, and all rooms in Paige, which are for a single student each. Where more than two students occupy a room, the rent will be increased proportionately.

Each student receives his key on payment of fifty cents, which is refunded on the return of the key at the close of the college year.

The prices given for room rent in the lists below are for the whole room during the academic year, and include heat and care. All men's rooms are lighted with gas; Paige Hall has electricity also. Each suite is metered separately, and the occupants pay for the gas actually consumed. Metcalf Hall has both gas and electricity. Start House has electricity only. None of the rooms is furnished.

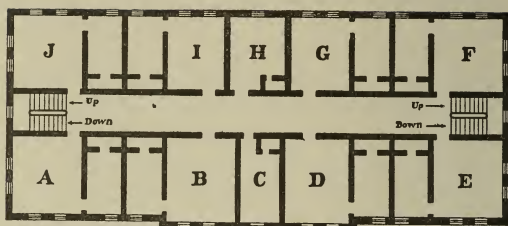
Room rent in the men's dormitories is in accordance with the following diagrams and prices:—

WEST HALL



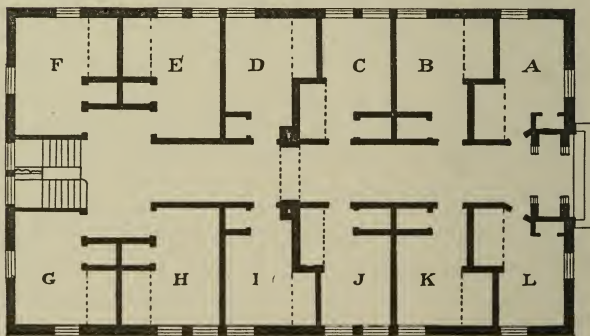
FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	FOURTH FLOOR
A 1 . . \$128	A 5 . . \$182	A 9 . . \$140	A 13 . . \$96
B 2 . . 102	B 6 . . 128	B 10 . . 118	B 14 . . 80
C 3 . . 92	C 7 . . 100	C 11 . . 96	C 15 . . 74
D 4 . . 128	D 8 . . 172	D 12 . . 140	D 16 . . 96
E 17 . . 128	E 21 . . 172	E 25 . . 140	E 29 . . 96
F 18 . . 92	F 22 . . 100	F 26 . . 96	F 30 . . 74
G 19 . . 102	G 23 . . 128	G 27 . . 118	G 31 . . 80
H 20 . . 128	H 24 . . 182	H 28 . . 140	H 32 . . 96

EAST HALL



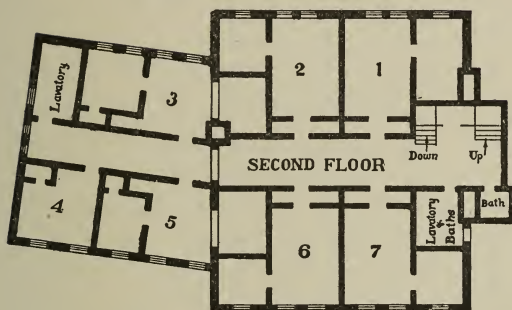
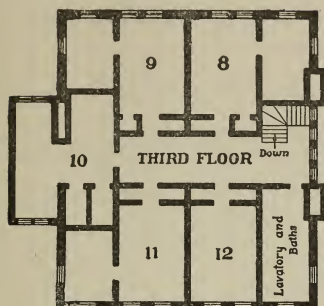
BASEMENT	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR
A	A 6 . . \$ 96	A 15 . . \$110	A 25 . . \$102
B	B 7 . . 92	B 16 . . 110	B 26 . . 100
C	C	C 17 . . \$43	C 27 . . \$40
D	D 8 . . \$92	D 18 . . 110	D 28 . . 100
E	E 9 . . 100	E 19 . . 118	E 29 . . 110
F 1 . . \$60	F 10 . . 100	F 20 . . 110	F 30 . . 100
G 2 . . 55	G 11 . . 80	G 21 . . 86	G 31 . . 80
H 3 . . 30	H 12 . . 40	H 22 . . 43	H 32 . . 40
I 4 . . 55	I 13 . . 80	I 23 . . 86	I 33 . . 80
J 5 . . 60	J 14 . . 86	J 24 . . 90	J 34 . . 86

PAIGE HALL



In Paige Hall the plan of each floor is the same. From A to L, the rooms are numbered from 1 to 12 on the first floor; from 13 to 24 on the second, and from 25 to 36 on the third floor. The price for each room is \$50.

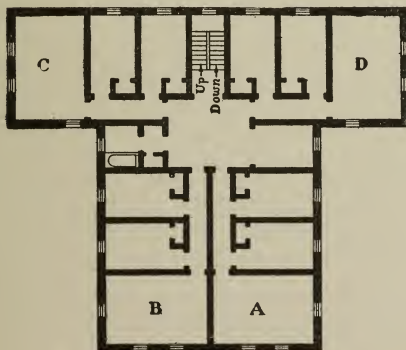
CURTIS HALL



1 . . \$80	4 . . \$ 50	7 . . \$85	10 . . \$85
2 . . 80	5 . . 100	8 . . 85	11 . . 85
3 . . 90	6 . . 85	9 . . 85	12 . . 45

Nos. 4 and 12 are single rooms.

DEAN HALL



DEAN HALL

(See previous page for plan)

FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	BASEMENT
A 1 . . \$160	A 5 . . \$160	A 9 . . \$160	A 13 . . \$85
B 2 . . 160	B 6 . . 160	B 10 . . 160	B 14 . . 85
C 3 . . 160	C 7 . . 160	C 11 . . 160	C
D 4 . . 160	D 8 . . 160	D 12 . . 160	D

METCALF HALL AND START HOUSE

In the women's dormitories, the prices for room rent are as follows. In Metcalf Hall, room B, \$120; C, \$100; 6, 7, 14, and 15, \$170; 2, 3, 10, and 11, \$150; 4 and 12, \$90; 13, \$80. These rooms accommodate two students each. The following rooms are for a single student: 1, 8, 9, and 16, \$75; A, \$50; 5, \$40. In the Start House there is but one room for a single student: number 6, at \$40. The other rooms are for two persons: 1, 3, and 4, \$120; 5, \$110; 7, \$100.

SCHOLARSHIPS

Awards of scholarships are made by the Board of Trustees, on the recommendation of the Faculty. Application for scholarships must be filed with the Secretary on blanks furnished for the purpose, on or before the first day of October; and, if the applicant be a minor, must be sanctioned by his parent or guardian. Grants of aid will apply only for the year in which granted, and will not in themselves be ground for continuance of assistance. If aid is desired during the following year, a new application must be filed.

New students desiring scholarships will be requested to file answers to specific questions on a blank provided for this purpose. This blank must be accompanied by a letter from the principal of the school last attended, containing a statement as to the applicant's character and especially as to his standing as a student. If there appears to be real need and evidence of promise of scholarship, the applicant may be assured of scholarship aid for the first half of the Freshman year, at the rate of \$75 per year.

After the first half of the Freshman year, continuance of aid

will depend upon the student's need and the grade of his work. Students are required to attain for graduation a grade of at least C in a certain proportion of their work. No student is considered eligible for scholarship aid who has, in the preceding year (or term, if a Freshman) failed to meet this requirement.

Of those considered eligible for scholarship aid, a limited number of those who are at once highest in scholarship and most in need will be assigned scholarships at the rate of \$100 per year. Those who are lowest in scholarship and least in need will be assigned scholarships at the rate of \$50 per year. Others may be assigned scholarships at the rate of \$75 per year.

The following conditions must be strictly observed by the applicant :

(a) His expenditure must be moderate, and strictly in accordance with his declaration of limited means.

(b) He must be regular in attendance.

(c) He must be guilty of no behavior reflecting upon his moral character or subversive of good order in the College.

Applicants residing in college dormitories will be given preference over those residing at home.

Scholarships are available for those students only whose term bills are fully paid within ten days after the opening of each college term, or after such bills shall have become due. The bills of any student whose connection with the College ceases are due at that time.

The following scholarships have been founded in the College. Except in special cases, when the donor has otherwise stipulated, the Trustees will award scholarship aid in such sums as they may determine in each case.

THREE STATE SCHOLARSHIPS.—Established in accordance with a resolve of the Commonwealth.

FIVE HOWLAND SCHOLARSHIPS.—Established from the income of the bequest of the late Edwin Howland, of South Africa.

FIVE WALKER MATHEMATICAL SCHOLARSHIPS.—Established in honor of the late William J. Walker, M.D., of Newport, R. I., and payable from the income of the Walker Fund.

TWO MOSES DAY SCHOLARSHIPS.—Founded by the late Moses Day, of Roxbury.

THE A. A. MINER SCHOLARSHIP.—Founded by the late Alonzo Ames Miner, D.D., of Boston.

THE REBECCA T. ROBINSON SCHOLARSHIP.—Founded by the late Charles Robinson, LL.D., of Newton.

THE WILLIAM OSCAR CORNELL SCHOLARSHIP.—Founded by William Oscar Cornell, of Providence, R. I.

THE LAURA A. SCOTT SCHOLARSHIP.—Founded by Mrs. Laura A. Scott, of Ridgefield, Conn.

THE STOW SCHOLARSHIP.—Founded by the late Mrs. Eugenia D. Stow, of Meriden, Conn.

THE NORCROSS SCHOLARSHIP.—Founded by James A. and Mrs. Mary E. Norcross, of Worcester.

THE ANDERSON SCHOLARSHIP.—Founded by John M. Anderson, of Salem, in the name of John M. and Rebecca Anderson.

THE TRAVELLI SCHOLARSHIP.—Founded by Mrs. Emma R. Travelli, of Newton.

THE WHITTIER SCHOLARSHIP.—Founded by the late Charles Whittier, of Roxbury, in the name of Charles and Eliza Isabel Whittier.

THE TALBOT SCHOLARSHIP.—Founded by the late Newton Talbot, of Boston.

THE SIMONS MEMORIAL SCHOLARSHIP.—Founded by Mrs. Mary A. Simons, of Manchester, N. H., in memory of Hiram H., Augustus, and Frank Simons.

THE AMASA AND HANNAH L. WHITING SCHOLARSHIP.—Founded by Mrs. Hannah L. Whiting, of Hingham.

THE MARTHA GOLDTHWAITE MEMORIAL SCHOLARSHIP.—Founded by the late Willard Goldthwaite, of Salem.

THE ANDREW J. CLARK MEMORIAL SCHOLARSHIP.—Founded by Mrs. Abbie B. Clark, of Orange.

THE SARAH E. SAYLES MEMORIAL SCHOLARSHIP.—Founded by the late Albert W. Sayles, of Lowell.

THE COUSENS SCHOLARSHIP.—Founded by the late John E. Cousens, of Brookline, in the name of John E. and Sarah C. Cousens.

THE BENJAMIN F. SPINNEY SCHOLARSHIP.—Founded by Benjamin F. Spinney, of Lynn.

THE HENRY F. BARROWS SCHOLARSHIP.—Founded by Henry F. Barrows, of North Attleboro.

THE ELLERY E. PECK MEMORIAL SCHOLARSHIP.—Founded by the late Henry Rollins, of Bangor, Me.

THE J. H. MORLEY MEMORIAL SCHOLARSHIP.—Founded by Herbert Small Morley, of Templeton.

THE EDWIN H. CHAPIN MEMORIAL SCHOLARSHIP.—Founded by friends of the late Edwin Hubbell Chapin, D.D., in New York City.

THE THOMAS A. GODDARD MEMORIAL SCHOLARSHIP.—Founded by the late Mrs. Mary T. Goddard, of Newton.

THE HOSEA BALLOU, 2D, MEMORIAL SCHOLARSHIP.—Founded by the late Mrs. Mary T. Goddard, of Newton.

THE HENRY E. COBB SCHOLARSHIP.—Founded by the late Henry E. Cobb, of Boston.

THE MARY ANN WARD SCHOLARSHIP.—Founded by Sylvester L. Ward, of Boston.

THE MARIA P. WINN SCHOLARSHIP.—Established from a bequest of the late Mrs. Maria P. Winn, of Woburn.

THE JOSEPH D. PEIRCE MEMORIAL SCHOLARSHIP.—Founded by the children and other relatives of the late J. D. Peirce, D.D., of Attleboro.

FIVE JOHN AND LUCY H. STOWE SCHOLARSHIPS.—Five scholarships for women students, founded by the late Mrs. Lucy H. Stowe, of Lawrence.

TWO SIMMONS SCHOLARSHIPS.—Founded by the will of Robert F. Simmons, of Attleboro, in the name of Mary F. and Robert F. Simmons.

THE JOSHUA S. AND HARRIET N. WHITE SCHOLARSHIP.—Founded by the late Joshua S. White, of Pawtucket, R. I.

THE JOHN B. PERKINS SCHOLARSHIP.—Founded by Ann Maria Perkins, of Medford.

TWO BARNARD SCHOLARSHIPS.—Founded by the late Mrs. Caroline M. Barnard, of Everett.

THE BARTLETT SCHOLARSHIP.—Founded by the late Mrs. Nancy Bartlett, of Milford.

THE B. H. DAVIS SCHOLARSHIP.—Founded by the Rev. B. H. Davis, of Weymouth, for the benefit of students of the College of Letters who are preparing to enter the Christian ministry.

THE LATIMER W. BALLOU SCHOLARSHIP.—Founded by the late Latimer W. Ballou, of Woonsocket, R. I.

THE NATHANIEL WHITE SCHOLARSHIP.—Founded by Armenia S. White, of Concord, N. H.

THE LIZZIE P. ALLEN SCHOLARSHIP.—Founded by the late Lizzie P. Allen, of Derby Line, Vermont.

THE RHODE ISLAND SCHOLARSHIP.—Founded by several persons in Rhode Island.

TWO CHARLES AND FANNIE A. MINER BOOTH SCHOLARSHIPS.—Founded by the late Charles Booth, of Springfield, Vermont.

THE LUTHER GILBERT SCHOLARSHIP.—Founded by the late Mrs. Luther Gilbert, of Roxbury.

THE ORMSBEE CLASS SCHOLARSHIP.—Founded by Benjamin F. Smith, of Pawtucket, R. I.

TWO MARY AND LUTHER GILBERT SCHOLARSHIPS.—Founded by Mrs. Mary G. Knight, of Roxbury, for the benefit of women.

THE JAMES M. AND EMILY COOK SCHOLARSHIP.—Founded by Henrietta J. States, of Boston.

THE WILLIAM H. SHERMAN SCHOLARSHIP.—Founded by the late William H. Sherman, of Cambridge.

THE DAVIS COOK SCHOLARSHIP.—Founded by the late Davis Cook of Cumberland, R. I.

THE AUSTIN B. FLETCHER SCHOLARSHIP.—Founded by Austin Barclay Fletcher, of New York City.

THE JONAS CLARK WELLINGTON SCHOLARSHIP.—Founded by Mrs. Sarah C. Fisher Wellington, of Cambridge.

THE MARY L. GROCE SCHOLARSHIP.—Founded by the late Mary L. Groce, of Roxbury.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE SCHOLARSHIP.—Founded by the late John Sprague, of Lowell.

THE MARY A. RICHARDSON SCHOLARSHIP.—Founded by Mrs. Mary A. Richardson, of Worcester.

TWO WARREN SCHOLARSHIPS.—Founded by the late Dr. Ira Warren, of Boston.

The following scholarships of fifty dollars each are awarded annually:—

THE A. A. MINER SCHOLARSHIP.—Founded by the late Alonzo Ames Miner, D.D., of Boston.

THE PERKINS SCHOLARSHIP.—Founded by James D. Perkins, of New Rochelle, N. Y.

THE MOSES DAY SCHOLARSHIP.—Founded by the late Moses Day, of Roxbury.

THE JOSEPH H. WALKER SCHOLARSHIP.—Founded by Joseph H. Walker, of Worcester.

THE GEORGE C. THOMAS SCHOLARSHIP.—Founded by George C. Thomas, of Philadelphia, Pa.

THE ALBERT W. SAYLES SCHOLARSHIP.—Founded by the late Albert W. Sayles, of Lowell.

THE LIZZIE P. ALLEN SCHOLARSHIP.—Founded by the late Lizzie P. Allen, of Derby Line, Vermont.

THE CHARLES A. AND CORNELIA B. SKINNER SCHOLARSHIP.—Founded by the late Rev. Charles A. Skinner, D.D., and Mrs. Cornelia B. Skinner, of Cambridge, Mass.

The following scholarships are awarded under special conditions:—

THE GREENWOOD PRIZE SCHOLARSHIP IN ORATORY.—Founded by the late Mrs. Eliza M. Greenwood, of Malden, and given to such student as shall have made, as the result of faithful work, together with at least a fair degree of attainment, the greatest improvement in Oratory.

THE WENDELL PHILLIPS MEMORIAL SCHOLARSHIP.—Founded to perpetuate the name, fame, and influence of Wendell Phillips. This scholarship is to be awarded to a student who has completed the Freshman and Sophomore years, and he is to have the benefit of it during the remainder of his course. The beneficiary must be of sound body, high character, and ability in declamation and debate, and must comply with certain special conditions, including participation in a competitive debate of the applicants at the end of the Sophomore year. The specific conditions governing the award of this scholarship may be obtained by those intending to apply therefor from the Secretary of the Faculty, to whom application should be made early in the Sophomore year. The income of this scholarship is at present seventy dollars.

THE MOSES TRUE BROWN SCHOLARSHIP.—A scholarship yielding fifty dollars annually, founded by the late Moses True Brown, of Sandusky, Ohio, formerly Professor of Oratory in Tufts College, for encouraging and assisting worthy students in the department of Oratory.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1898.—The sum of fifty dollars is given annually by the Class of 1898 to that Senior who at the end of the Junior year shall have maintained the highest excellence in a course of study broadly and wisely chosen.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1882.—The sum of one hundred dollars is given annually by the class of 1882 to that member of the College who best exemplifies the combination of ability in athletics and excellence in scholarship.

ALPHA OMICRON PI PRIZE SCHOLARSHIP.—Founded by the alumnae of the Tufts Chapter of Alpha Omicron Pi, and given to that woman in the senior class who shall have made the best record in the prescribed work of the A. B. Course.

FUNDS FOR WOMEN

The Woman's Universalist Missionary Society of Massachusetts maintains a fund which is loaned to deserving women students, in sums of one hundred dollars, at four per cent. This fund now amounts to about six thousand dollars.

The Hettie Lang Shuman Memorial Fund was founded by Mr. A. Shuman, who presented one thousand dollars to the College, in memory of his wife. The interest of this fund is annually expended in aiding deserving women students.

The Massachusetts Society for the University Education of Women has at its disposal a small loan fund, and also a limited

amount of money devoted to scholarship purposes for regular young women students of the upper classes. Inquiries concerning both of these may be made of the Dean.

PRIZES

GODDARD PRIZES.—In the second term of the academic year three prizes of *fifteen dollars* each are assigned from the Goddard Prize Fund, as follows :—

A prize for the best examination, by a member of the Junior or Senior class, on the sixty-fourth poem of Catullus, or a Satire of Juvenal, or an Epistle of Horace.

A prize for the best examination, by a member* of the Junior or Senior class, on the life and works of Solon.

The examinations for the Latin and Greek prizes will be held during the first week in May. Due notice of time and place will be given.

A prize for the best examination in the Mathematics of the first year.

RHETORICAL PRIZES.—Three prizes are awarded as follows :—

A first prize of forty dollars, a second prize of thirty dollars, and a third prize of twenty dollars. The preliminary competition will be open to all candidates for the degree of A.B., B.S., and B.D.

The rhetorical prizes are awarded by a committee, chosen by the Faculty, who judge the work presented by the competitors upon the public day appointed for that purpose. In order to enter the public competition, candidates, as well as their selections, must be approved by the Professor of Oratory. A preliminary competition is held about ten days before the competition announced in the calendar, at which a committee of the Faculty determine the contestants in the final and public readings.

The foregoing prizes are not awarded, unless in the opinion of the respective judges there is sufficient merit in the several contests to warrant their distribution.

THE CHARLES L. CORBIN PRIZE of \$50 for a thesis in Metaphysics, founded by Professor and Mrs. Cushman. Open to students who, having elected Philosophy as a major subject, announce on the first day of October of their senior year the

subject of their thesis, and have the thesis completed on April first of that year. The prize may be awarded even if only one student competes for it. It may be withheld if among a large number of theses no one is deemed adequate. The committee of award will be chosen by Professor Cushman from the philosophical faculty of some other institution.

A regular day has been appointed for the annual announcement of the award of prizes and the assignment of Commencement parts,—Wednesday of the week preceding the Thanksgiving recess.

COMMITTEE ON STUDENT EMPLOYMENT

It is the object of the committee on student employment to inform students concerning positions which may give regular occupation during available hours of term time, or which may be temporarily filled during the vacation periods. Students who wish to make application for any occupation should register their names, with a statement of their qualifications for any special work, with PROF. HARRY G. CHASE, Chairman of the Employment Committee, Room 22, Robinson Hall.

Buildings and Equipment

The College buildings are nineteen in number. Ballou Hall contains recitation-rooms, the room of the President and Faculty, and the offices of the Dean, the Registrar, and the Bursar. It contains also the college bookstore. Other buildings are Barnum Museum; Goddard Chapel; Goddard Gymnasium; the Eaton Library; the Chemical Building; the Women's Gymnasium; Middle Hall; three dormitories,—East Hall, West Hall, Dean Hall, for men; Curtis Hall, containing the post-office, class-rooms, and rooms for students; Metcalf Hall and the Start House, for women students. The Bromfield-Pearson School building is available for technical courses of the College. Two buildings, Miner Hall and Paige Hall, are devoted to the use of the Divinity School. Robinson Hall provides for work in certain of the physical sciences. A power-house has been added, supplying light, heat, and power to the engineering buildings.

The new library building, erected through the gift of one hundred thousand dollars by Andrew Carnegie, is now occupied. At the suggestion of Mrs. Carnegie it is called the Eaton Memorial Hall, in honor of Charles Henry Eaton, '74, former pastor of the Church of the Divine Paternity, New York City.

In the summer the gates in the wire fence surrounding the buildings are closed at 5 P.M. on week days and all day Sunday.

EATON LIBRARY

In all, about sixty-six thousand bound volumes and forty thousand pamphlets are available for use. The College regularly receives more than two hundred periodicals. By favor of the late Senator Hoar the library is a depository for government publications. In the library building a reading-room, maintained by the students, supplies the daily and weekly papers. The student fund also provides a number of the popular and the more technical magazines. Separate rooms have been pro-

vided with facilities for the use of students working in the departments of History and Public Law, the Ancient Languages, the Modern Languages, Music, English, the Fine Arts, Philosophy, Political Science, Physics and Mathematics. The average annual increase by donation and purchase, for the last five years, has been about two thousand four hundred volumes.

In the general library is the collection of the Universalist Historical Society (six thousand volumes and several thousand pamphlets), to which, on application, students have free access. In Miner Hall is a selected reference library, for the use of theological students. In the Barnum Museum is the department library of Natural History, numbering more than twenty-eight hundred volumes and about sixty-eight hundred pamphlets. The Metcalf Musical Library is divided between the music rooms in Goddard Gymnasium, where the scores are kept, and the department room in the Eaton Memorial Library, which contains the collection of English works relating to music. About four hundred representative musical compositions, in form for use upon the automatic instruments in the music rooms, are available for use by students.

The library is open to all members of the College every day in the week, except Sunday, from 8.00 A.M. to 6 P.M.

BARNUM MUSEUM

The Barnum Museum of Natural History was built in 1883-84 by the late Phineas T. Barnum, who gave the College a fund for its maintenance and for the addition of two wings to the central building. One of these wings has been erected. In addition to laboratory rooms, it affords space for the display of the mineralogical and geological collections.

The College is also indebted to Mr. Barnum for the larger portion of its zoological collection. This serves to illustrate all groups of the animal kingdom, and is especially rich in skeletons and mounted skins of mammals, the whole being well adapted for the purposes of instruction. The botanical collection consists of an herbarium containing a representation of

the flora of New England, besides many specimens from Europe and the southern and western States. The geological collection contains representatives of the various types of rocks, as well as of fossils from all formations. The mineralogical collection embraces fine examples of most of the species.

The laboratories and lecture-rooms of the department of Geology are in the main Museum building. The geological laboratory is provided with petrological microscopes, instruments for making rock sections, and other instruments. The mineralogical laboratory possesses the apparatus necessary for the determination of minerals, the analysis of ores, and assay work. The biological laboratories are in the newly-erected wing. The laboratory for elementary work is furnished with all necessary facilities, while the laboratories (two in number) for advanced and research work have all the appliances needed for investigation on the lines of anatomy, histology, and embryology.

The Barnum Museum is open for the inspection of visitors from 8.30 A.M., to 5.00 P.M., every day but Sunday.

GODDARD GYMNASIUM

Goddard Gymnasium, the gift of Mrs. Mary T. Goddard, is well adapted to provide the prescribed class and individual work, and to furnish wholesome physical exercise for all. It is fitted with the apparatus usually seen in a good modern gymnasium, including facilities for light and heavy gymnastics, fencing, wrestling, basket ball, base ball, and the many indoor athletic sports. In the offices is a full set of anthropometric instruments for the physical examination of all students. There is a large gallery, with padded running track twenty-four laps to the mile. The dressing rooms, lockers, and baths are well lighted and commodious. The building is heated by steam and lighted by electricity.

The third floor is occupied by the department of Music.

ATHLETIC FIELDS

The old campus is just outside the gymnasium, and on it are tennis-courts, two base-ball diamonds, a foot-ball field, and a

board track. Its close proximity to the Gymnasium is of great advantage.

Tufts College Athletic Field is the large inclosed field on College Avenue, where inter-collegiate contests are played. It includes two base-ball diamonds, a foot-ball field, and a quarter-mile, twenty-foot cinder track, for track athletics. Tennis-courts and a separate gymnasium are provided for women students, not far from Metcalf Hall.

While athletics are encouraged and generously supported by the College, they are made subsidiary to the requirements of the curriculum, thus safeguarding the best interests of the student.

CHEMICAL BUILDING

The building of the department of Chemistry contains laboratories for general inorganic, organic, analytical, and metallurgical chemistry, a large lecture-room, library, and weighing room, and the private laboratories of the professors in charge. The rooms are provided with all the modern laboratory conveniences, and are well supplied with apparatus and chemicals.

ROBINSON HALL

Robinson Hall is a memorial to the late Charles Robinson, and is designed for the use of the Engineering School. It contains the physical and engineering laboratories, a lecture hall, recitation rooms, and offices of instructors. It is lighted throughout by gas and electricity, and heated from an adjoining steam plant by direct and indirect methods.

The Laboratory of General Physics has a floor area of about twenty-five hundred square feet. It is provided with the necessary apparatus for quantitative work in mechanics, sound, light, heat, electricity and magnetism.

The Electrical Testing Laboratories are well equipped for general electric testing. The apparatus includes various makes of ammeters, voltmeters, wattmeters, galvanometers, resistance boxes, bridges, condensers, and standards of resistance, capacity and electromotive force. A storage battery supplies direct cur-

rent at any pressure from two to one hundred and twenty volts, and in addition the testing rooms receive both direct and alternating currents from the Power House, and alternating current from the lines of the Edison Electric Illuminating Company.

Connected with the laboratories is a photometer room of ample size for the photometry of arc and incandescent lamps and provided with apparatus of the latest pattern.

The Transformer Room contains eight new transformers of the General Electric Company; a ten-kilowatt Thomson welder; two five-kilowatt testing transformers, one of ten thousand volts, the other of fifty thousand volts; and a number of smaller and less modern pieces of apparatus.

The Dynamo Testing Room contains a considerable variety of machinery, all electrically driven. Some of the more important machines are a General Electric University Alternator capable of being used as a generator, synchronous motor, or induction motor for one, two, or three phase currents; a high frequency motor generator set with which any periodicity up to one thousand cycles per second can be obtained; two railway motors coupled for testing; two direct-current arc light generators; two and three phase induction motors; a pair of two kilowatt double current generators specially designed for laboratory purposes; and a synchronous motor with phase indicating device.

The Mechanical and Hydraulic Laboratories are in the basement, of which the greater part is above ground, thus assuring good light and freedom from dampness. These rooms contain the testing machines and other apparatus for experimental mechanics, together with the pumps, tanks, and accessories of the hydraulic laboratory.

The Steam Engineering Laboratory contains a small Corliss engine provided with an Admiralty condenser; a 6 x 6 plain slide valve engine used for valve setting and for running a belted air compressor; an oil testing machine; measuring and weighing tanks; apparatus for testing steam engine indicators, gauges and injectors; apparatus for determining the amount of steam or air flowing through orifices; also planimeters, calori-

meters, and indicators of several different makes. The steam engines, gas engine, and the boiler, in the power station, are also arranged and equipped for testing.

A carefully constructed experimental model of the Stevenson Link motion, provided with every possible adjustment, affords ready means for verifying valve diagrams.

THE POWER STATION

The Power Station is equipped with a one hundred and twenty-five horse-power boiler, which supplies heat and power to the engineering buildings. It is also piped and equipped for experimental work in steam engineering; and may be run by forced or natural draft.

The engine room contains a twenty-five horse-power Sturtevant engine directly coupled to a Mordey Alternator; a forty horse-power Harrisburg Standard engine directly coupled to a direct-current General Electric generator; a twenty-five horse-power Buckeye engine with an Alden absorption dynamometer; and a ten horse-power Columbia gas engine belted to a direct current generator. A storage battery of sixty elements furnishes current for lighting, power, and experimental purposes.

An extension of this building provides accommodation for the Forge Shop and Foundry.

BROMFIELD-PEARSON BUILDING

The Bromfield-Pearson Building contains the offices, recitation rooms, lecture and drafting rooms required for conducting the special courses of the Bromfield-Pearson School. It is also equipped for the departments of Drawing and Mechanic Arts in the Engineering School. Abundant and uniform light is provided, and the drafting rooms are separated from the noise and confusion of the shops. The rooms are lighted by electricity from the adjoining Power Station, and power is furnished to the shop from the same source. One end of the building is used exclusively by the pattern, and machine shops, and both are well equipped with modern tools and facilities for conducting the class work in mechanic arts. Electricity from the college plant is used for lighting and power throughout the building.

THE MEDICAL SCHOOL

Faculty of the Medical School*

- FREDERICK WILLIAM HAMILTON, A.M., D.D., LL.D.
 PRESIDENT Tufts College
- HAROLD WILLIAMS, A.B., M.D., LL.D. 528 Beacon St.
 DEAN, and *Professor of the Theory and Practice of Medicine*
- FREDERIC MELANCTHON BRIGGS, A.B., M.D.
31 Massachusetts Ave.
Professor of Clinical Surgery and Secretary of the Faculty
- JOHN LEWIS HILDRETH, A.M., M.D., LL.D. . . . 14 Garden St.,
Professor of Clinical Medicine, Emeritus Cambridge
- CHARLES PAINE THAYER, A.M., M.D. Philadelphia, Pa.
Professor of Anatomy, Emeritus
- ERNEST WATSON CUSHING, A.B., M.D., LL.D. 168 Newbury St.
Professor of Abdominal Surgery and Gynaecology
- EDWARD OSGOOD OTIS, A.B., M.D. 381 Beacon St.
Professor of Pulmonary Diseases and Climatology
- HENRY JABEZ BARNES, M.D. 429 Beacon St.
Professor of Hygiene
- CHARLES ALFRED PITKIN, A.M., PH.D. South Braintree
Professor of General Chemistry
- MORTON PRINCE, A.B., M.D. 458 Beacon St.
Professor of Diseases of the Nervous System
- HENRY BECKLES CHANDLER, C.M., M.D. . . . 34½ Beacon St.
Professor of Ophthalmology
- JAMES SULLIVAN HOWE, M.D. 437 Marlborough St.
Professor of Dermatology
- EDWARD BINNEY LANE, A.B., M.D. 419 Boylston St.
Professor of Mental Diseases
- EDWARD MAVERICK PLUMMER, M.D. 5 Adams St., Charlestown
Professor of Otolaryngology
- GEORGE HAMLIN WASHBURN, A.B., M.D. . 377 Marlborough St.
Professor of Obstetrics

* The names of the Faculty of Medicine, after the President, the Dean, and the Secretary, are arranged so far as possible in the order of academic seniority. The post office address is Boston, Mass., unless otherwise indicated.

- FRANK GEORGE WHEATLEY, A.M., M.D. . . . North Abington
Professor of Materia Medica and Therapeutics
- HORACE DAVID ARNOLD, A.B., M.D. 427 Beacon St.
Professor of Clinical Medicine
- JOHN JENKS THOMAS, A.M., M.D. 88 Bay State Road
Assistant Professor of Neurology
- JOHN LINCOLN AMES, A.B., M.D. 70 Chestnut St.
Associate Professor of the Theory and Practice of Medicine
- WILLIAM ELISHA CHENERY, A.B., M.D. . . 222 Huntington Ave.
Professor of Laryngology
- CHARLES MELVILLE WHITNEY, M.D. 591 Tremont St.
Assistant Professor of Genito-Urinary Diseases
- ROBERT WORTHINGTON HASTINGS, A.M., M.D. 45 Kilsyth Rd.,
Assistant Professor of Children's Diseases, and Librarian Brookline
- EDMUND CHANNING STOWELL, A.B., M.D. . . . 602 Centre St.,
Assistant Professor of Children's Diseases Jamaica Plain
- GEORGE ANDREW BATES, M.Sc., D.M.D. Auburndale
Professor of Histology
- JOHN NELSON COOLIDGE, A.B., M.D. . . . 409 Marlborough St.
Assistant Professor of Clinical Medicine
- EUGENE THAYER A.M., M.D. . . . 2683 Washington St., Roxbury
Demonstrator of Anatomy
- FREDERIC JAY COTTON, A.M., M.D. 483 Beacon St.
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- GEORGE VAN NESS DEARBORN, A.M., M.D., PH.D. 6 Mason St.,
Professor of Physiology Cambridge
- GEORGE WARTON KANAN, M.D. 419 Boylston St.
Professor of Clinical Gynaecology
- CHARLES FAIRBANK PAINTER, A.B., M.D. 372 Marlborough St.
Professor of Orthopedic Surgery
- RALPH CLINTON LARRABEE, A.B., M.D. 912 Beacon St.
Assistant Professor of Clinical Medicine
- CHARLES DAVISON KNOWLTON, M.D. 574 Warren St., Roxbury
Assistant Professor of the Theory and Practice of Medicine
- TIMOTHY LEARY, A.M., M.D. . . 17 Grosvenor Road, Jamaica Plain
Professor of Pathology and Medical Jurisprudence

- FRANK LEE DRUMMOND RUST, M.D. 755 Boylston St.
Professor of Ophthalmology
- ALFRED WILLIAM BALCH, PH.G., M.D. . 44 Linden St., Brookline
Assistant Professor of Medical Chemistry and Toxicology
- HARRY HOMER GERMAIN, M.D. 416 Marlborough St.
Assistant Professor of Anatomy

OTHER INSTRUCTORS

- WILLIAM SCHOFIELD, A.M., LL.B. . . . 136 Summer St., Malden
Lecturer in Medical Jurisprudence
- WALTER ELMORE FERNALD, M.D. Waverley
Clinical Lecturer in Mental Diseases
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- FRANCIS JOSEPH KELEHER, A.M., M.D. 1345 Center St., Newton
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- HARRY GRAY CHASE, B.S. Tufts College
Lecturer in Physics

- RICHARD FITCH CHASE, M.D. 419 Boylston St.
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Instructor in Obstetrics
- ROBERT MICHAEL MERRICK, M.D. . . . 15 Adams St., Dorchester
Instructor in Children's Diseases
- FRANCIS DENNIS DONOGHUE, M.D. 864 Beacon St.
Instructor in Operative Surgery
- THEODORE CHARLES ERB, M.D. 159 St. Botolph St.
Instructor in Obstetrics
- THOMAS FRANCIS GREENE, M.D. . . . 322 Warren St., Roxbury
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- WILLIAM HERBERT GRANT, M.D. 845 Boylston St.
Instructor in Clinical Gynaecology

- WILLIAM GRAY ADAMS, M.D. 259 Beacon St.
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- JOHN DRESSER ADAMS, M.D. 915 Boylston St.
Assistant Demonstrator of Anatomy

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- MALCOLM SEYMOUR, M.D. 405 Marlborough St
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- GRACE ELIZABETH ROCHFORD, M.D. . . 68 Paris St., E. Boston
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Assistant in Histology
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Assistant in Physiology
- HARRY HOWARD FLAGG, M.D. 30 Elm St., Charlestown
Assistant in Physiology
- JAMES ALBERT HONEIJ, M.D. 2 Arlington St., Cambridge
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- JULIA TRACY METCALF, M.D. . . . 206 Winthrop Rd., Brookline
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- SOLOMON HYMAN RUBIN, M.D. 10 Hancock St.
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Assistant in General Chemistry

LABORATORY ASSISTANTS

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 BERNARD C. HEALEY Boston
 WILLIAM B. GILES West Somerville
 HAROLD W. MARTIN Roxbury
 GONZALO ESPEJO Merida, Yucatan, Mexico

Physiology

RALPH W. BICKNELL Canton, Me.
 WILFRED G. FUNNELL Fall River
 ERLE D. FORREST Boston
 WILLIS P. MIDDLETON Quincy
 STANLEY F. DUNCAN Quincy

Histology

RUSSELL B. SPRAGUE Providence, R. I.

General Chemistry

EDWARD L. MARR Malden
 JEFFREY J. WALSH Fall River
 ERNEST J. SMITH Ipswich
 JOHN H. T. SWEET, JR. Hartford, Conn.

Medical Chemistry

CYRIL G. RICHARDS Roxbury
 HAROLD W. EAGER Manchester, N. H.
 FREDERICK W. O'BRIEN Roxbury

Pharmacology

LAMERT OULTON Port Elgin, N. B.
 JEFFREY J. WALSH Fall River
 ALBERT W. COLWILL Magnolia

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<i>Stenographer</i>	
LILLIAN M. TATTAN	Somerville
<i>Clerk to Secretary</i>	

STANDING COMMITTEES OF THE MEDICAL SCHOOL

The Dean and the Secretary are members of all Committees, *ex officiis*.

ADMINISTRATION. — The President, Drs. Wheatley and Leary

CATALOGUE. — Drs. Arnold, Bates, and Hastings

NOMINATIONS. — Drs. Wheatley and Cotton

LIBRARY. — Drs. Otis, Howe, Cushing, and Hastings (Librarian)

COURSE OF INSTRUCTION. — Drs. Leary, Arnold and Bates

ADMISSION. — Drs. Leary, Dearborn, and Germain

WOMEN'S ADVISORY COMMITTEE. — Drs. Elizabeth A. Riley, Olga Cushing-Leary, and Edna Weil-Dreyfus

Student Government Board

With the intention of increasing the teaching efficiency of the School, and of eliminating, so far as possible, disciplinary relations ordinarily existing between instructor and pupil, a Student Government Board has been tentatively established.

The board is composed of nine members, as follows : the four presidents of the classes in the Medical School ; the three presidents of the classes in the Dental School ; one member at large for the Medical School, to be chosen by the presidents of the Medical classes ; and one member at large for the Dental School, to be chosen by the presidents of the Dental classes. The functions are, at present, chiefly advisory. To it are referred questions of discipline, and general matters relating to the interests of the student body.

The Board for the present year is as follows:—

CHAIRMAN

James B. Bigelow, M '10

SECRETARY

Timothy J. Donovan, D '10

MEDICAL SCHOOL :

Daniel E. Welch, '10

Joseph F. Golden, '11

Philip E. A. Sheridan, '12

John Daly, '13

DENTAL SCHOOL :

Louis A. Haffner, '10

Maurice V. Brown, '11

Richard J. Fitzgerald, '12

Tufts College Medical School

416 Huntington Avenue

Boston, Mass.

The Tufts College Medical School was established in Boston in 1893. Women are admitted upon the same terms as men. Since its establishment its rapid growth is believed to be without precedent in the history of American medical schools. It is now the largest medical school in New England. Three times it has been found necessary to change the location of the School to provide larger laboratory facilities for the constantly increasing number of students. In 1900 it was voted by the Trustees to provide a new building for the combined Medical and Dental departments. Land was purchased upon the corners of Huntington and Rogers avenues and Courtland and Drisko streets, and ground was broken for the new medical school early in the autumn. This building is occupied by the combined Medical and Dental Schools. It is constructed of Jonesport red granite and brick, with terra-cotta trimmings. It contains nearly an acre-and-a-half of floor space; is heated and ventilated throughout by both the direct and the indirect system; and is lighted by electricity. Modern improvements have been introduced in all departments, and no expense has been spared to make it the best-arranged structure of its kind in New England. The building can be reached by all Huntington Avenue Subway cars, except the Roxbury and Dorchester lines.

General Information

CLINICAL ADVANTAGES

Boston, as the largest city in New England, offers unusual facilities to the student of medicine. The amphitheatres of the Boston City Hospital, the Massachusetts General Hospital, the Massachusetts Charitable Eye and Ear Infirmary, are open to

students, and opportunity is thus afforded for witnessing the more extensive surgical operations.

Clinics are held at the Boston City Hospital, Boston Dispensary, Boston Insane Hospital, Carney Hospital, Free Home for Consumptives, Dispensary for Women, House of the Good Samaritan, Massachusetts Charitable Eye and Ear Infirmary, Massachusetts School for Feeble Minded, Massachusetts State Sanatorium for Treatment of Tuberculosis, Mount Sinai Hospital, St. Elizabeth's Hospital, St. Mary's Infant Asylum, Tremont Dispensary, Women's Charity Club Hospital, and at various private clinics.

SESSIONS OF THE SCHOOL

The annual course of lectures begins on the last Wednesday in September of each year, and continues thirty-six weeks until the second Wednesday in June. The annual course of lectures for 1910-11 will commence Wednesday, September 28, 1910, at 3 o'clock P.M.

VACATIONS

There are no exercises at the School during three days at Thanksgiving, a week at Christmas, and the week beginning April 3, 1910, nor upon Washington's Birthday, Patriots' Day and Memorial Day.

OUTLINE OF THE COURSE

The course of study is a graded one, covering four annual sessions. In general the first two years consist of didactic and laboratory work; the last two years are chiefly clinical. During the latter part of the fourth year a certain latitude is allowed in the choice of elective subjects, but the course is otherwise uniform and the required subjects cover thoroughly the general ground of medicine, surgery, and the important special subjects.

For the first three years the school session is divided into two semesters of seventeen weeks each.

First Year

First Semester

Anatomy.—Lectures, recitations, demonstrations, and dissecting. *Twenty-eight hours a week.*

Histology.—Lectures, recitations, demonstrations, and laboratory work.
Nine hours a week.

Elementary Hygiene.—Lectures. *One hour a week, ten lectures.*

Second Semester

Applied Anatomy.—Lectures and demonstrations. *Three hours a week.*

Embryology.—Lectures, recitations, and laboratory work. *Three hours a week.*

Physiology.—Lectures, recitations, demonstrations, conferences, and laboratory work. *Twenty hours a week.*

General Chemistry.—Lectures, recitations, and laboratory work. *Eleven hours a week.*

Second Year

First Semester

Chemical Pathology and Toxicology.—Lectures, recitations, demonstrations, and laboratory work. *Twenty hours a week.*

Materia Medica and Therapeutics.—Lectures, recitations, and laboratory work in Pharmacology. *Twelve hours a week.*

Second Semester

Pathology.—Lectures, recitations, demonstrations, and laboratory work.
Twenty-five hours a week.

Bacteriology.—Lectures, recitations, demonstrations, and laboratory work.
Five hours a week.

The following subjects are given throughout the school year :

Physical Diagnosis.—Lectures, demonstrations, recitations and section exercises. *Forty-eight hours in all.*

Bandaging and Surgical Technique.—Lectures, demonstrations, and section exercises. *Twenty-four hours in all.*

Third Year

The following subjects are given throughout the school year :

Theory and Practice.—Lectures, and recitations. *Three hours a week.*

Surgery.—Lectures and recitations (three hours), and one *clinical lecture. *Four hours a week.*

Obstetrics.—Lectures, recitations, and demonstrations. (Attendance upon at least two cases of labor is required — see "clinics," below.)
Three hours a week.

Diseases of Children.—One lecture at the school and one *clinical lecture.
Two hours a week.

*Clinical lectures are given at the hospitals connected with the School. See page 228.

Medical Diagnosis (including preliminary work in Clinical Medicine).—Lectures and recitations (three hours a week), and *clinical lectures (two hours a week). *Five hours a week.*

Hygiene and Sanitation.—Lectures. *One hour a week.* This course gives, in addition, lectures and demonstrations in Sanitary Chemistry. *Sixteen hours.*

Ophthalmology.—*Twenty-four lectures.*

Laryngology.—*Twenty-four lectures.*

First Semester

Neurology.—*One *clinical lecture a week. Sixteen lectures and eight hours of laboratory work in Neuro-Pathology.*

Hematology.—*Sixteen lectures and twenty-four hours of laboratory work.*

Second Semester

Pulmonary Diseases and Climatology.—*One *clinical lecture a week.*

Gynaecology.—Lectures and recitations. *Three hours a week.*

Genito-Urinary Diseases.—*Sixteen lectures.*

CLINICS

In addition to the above exercises, the students of the third year attend clinics, in sections, in the following subjects:—

Clinical Medicine ;

Clinical Surgery ;

Obstetrics (each student is required to take charge of at least two cases of childbirth) ;

Pediatrics ;

Pulmonary Diseases ;

Ophthalmology ;

Laryngology

The work in clinics averages *twelve hours a week for the year.*

Each student is required to serve one month as assistant at a clinic in the surgical department, and one month as assistant at a clinic in the medical department of an approved hospital.

Fourth Year

The fourth year is divided into three periods:—

The first period (twelve weeks) ends at the Christmas recess. The second period (thirteen weeks) ends at the spring recess. The third period (six weeks) follows the spring recess.

* Clinical lectures are given at the hospitals connected with the School. See page 228.

The work of this year is essentially clinical, and largely in sections.

The work of the fourth year is required and elective.

The required work includes a continuation of the clinical work in the general subjects of medicine and surgery, and a grounding in the essentials of those specialties which have not been studied in the third year. The most of these special subjects are completed before the Christmas recess.

The elective work is a continuation of the work of the required course along selected lines. The student is required to take a certain amount of work, but may exercise his choice as to what he will elect from a large number of subjects offered.

Required Subjects

Class Exercises

Clinical Medicine (including Pulmonary Diseases).—Lectures and conferences at the School (two hours), and *clinical lectures (three hours). *Five hours a week, thirty weeks.*

Clinical Surgery.—Lectures and conferences at the School (two hours), and one *clinical lecture and operations (two hours). *Four hours a week, thirty weeks.*

General Medicine.—Lectures and recitations. *One hour a week, thirty weeks.*

Abdominal Surgery.—Lectures and recitations. *Three hours a week during first period (twelve weeks).*

Neurology.—One conference at the School and two *clinical lectures each week. *Three hours a week during first period (twelve weeks).*

Psycho-Pathology.—Two lectures at the School and one *clinical lecture. *Three hours a week during first period (twelve weeks).*

Children's Diseases.—Lectures and conferences. *One hour a week during first period (twelve weeks).*

Orthopedic Surgery.—Lectures, recitations, and demonstrations. *Two hours a week during first period (twelve weeks).*

Otology.—*Clinical lectures. *Two hours a week during first period (twelve weeks).*

Rectal Diseases.—Lectures. *One hour a week during first period (twelve weeks).*

* Clinical lectures are given at the hospitals connected with the School. See page 228.

Electro-Therapeutics.—Lectures. *One hour a week during first period (twelve weeks).*

Clinical Gynecology.—*Clinics (in small sections) *during first and second periods (twenty-five weeks).* Conferences *once a week during second period (thirteen weeks).*

Medical Jurisprudence.—Lectures and demonstrations. *One hour a week during first and second periods (twenty-five weeks).*

Dermatology.—*Clinical lectures. *Two hours a week during second and third periods (eighteen weeks).*

Operative Surgery and Surgical Anatomy.—This course is a sub-division of Clinical Surgery, and consists of lectures, demonstrations, and section work in operations on the cadaver. *Three hours a week for twelve weeks (second and third periods).*

Mental Diseases.—Lectures and clinical visits at hospitals for the insane. *Two hours a week during second and third periods (eighteen weeks).*

Genito-Urinary Diseases.—*Clinics during first period in sections. *(Twenty-four hours—see below.)*

Clinical Work in Sections

Twelve hours a week are assigned to clinical work in sections throughout the year. This work is given, as far as possible, in close relation to the instruction in each subject, and the time assigned is proportioned to the importance of the subject. The minimum assignment is *twenty-four hours*—in the special subjects of the first period. This is supplemented in the second and third periods by further clinical work in those subjects that the student elects. The clinics in Clinical Medicine and Clinical Surgery extend throughout the year. The other clinics include the subjects of:—

Neurology; Pediatrics; Pulmonary Diseases; Orthopedic Surgery; Abdominal Surgery; Clinical Gynaecology; Otology; Dermatology; Electro-Therapeutics; Genito-Urinary Diseases; Medico-legal autopsies.

ELECTIVE SUBJECTS

Elective subjects are classified according to the amount of time occupied by each course. Twelve hours of lectures or clinics constitute one point. Each student is required to choose 7 points of electives.

* Clinical lectures are given at the hospitals connected with the School. See page 228.

The elective courses for the session 1909-10 are classified as follows :

Orthopedics	4 points	Otology	2 points
Neurology	3 points	Pathological Technique	2 points
Laryngology	3 points	Gastro-Intestinal Diseases	1 point
Clinical Gynecology	2 points	Pulmonary Diseases	1 point
Dermatology	2 points	Operative Obstetrics	1 point
Genito-Urinary Diseases	2 points	Mental Diseases	1 point
Ophthalmology	2 points		

The examination in an elective subject lasts one, two, or three hours, according as the course counts one, two, or three points. Orthopedics (4 points) has a three-hour examination.

Summary of Time

First Year	1268 hours
Second Year	1177 hours
Third Year	1248 hours
Fourth Year	1003 hours
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Total	4696 hours

EXAMINATIONS

1. For Entrance

The entrance examinations are conducted at the Medical School building, under the supervision of an officer of the College of Letters. They are given twice during the year. The next Entrance Examinations will be held Monday, June 6, and Monday, September 19, 1910, at 10 o'clock A.M.

2. Promotion

The regular examinations for promotion on the subjects of the First, the Second, and the Third Year, are held at the end of each course.

3. For Graduation

The regular examinations for graduation are held during the Fourth Year at three periods, and follow the termination of each of the three periods into which this year is divided (see page 231). At each of these periods examinations will be held in those subjects, required or elective, which end at that time.

4. Fall Examinations

The regular fall examinations will commence Monday, Sep-

tember 12, 1910, at 10 o'clock A.M., and are given for the following purposes:—

- (a) For students from other medical schools applying for advanced standing.
- (b) For the removal of conditions (other than entrance.)

Students intending to take the fall examinations (other than for entrance) are required to notify the Secretary on or before Saturday, Sept. 3, 1910.

In all examinations (except those for entrance) each student must register by signing his name to the registration blank provided for that purpose. If a student fails to register in this manner he shall receive no credit for that examination.

Subjects of Instruction

ANATOMY

The course in anatomy is given throughout the first year. During the first half-year there are five lectures and three recitations weekly with the class. There are also special demonstrations by the instructors in the difficult parts of the work. In the dissecting room each student is required to dissect two parts, to the satisfaction of the Demonstrator of Anatomy, before taking the final examination. It is necessary for every student to dissect three parts before graduation. Record of attendance and of the quality of the work done in the dissecting room will be kept, and will largely determine the standing of the student in the class.

During the second half-year there are three exercises each week, one hour for applied surgical anatomy, one hour for applied medical anatomy, one hour for applied anatomy of special subjects, such as the gross anatomy of the nervous system, of the eye, of the nose, of the throat, etc.

PHYSIOLOGY

The course in physiology is given throughout the latter half of the first year. It constitutes half of the entire work required of the student during that period. The course consists of four recitations, two lectures, six hours of laboratory work, and three conferences for every student, each week, together with the preparation of a technical written paper, and extra demonstrations. At the end of each month there is an important written examination.

In the recitations, familiarity with the subject-matter of an assigned text-book of physiology, and of the syllabus, is required. The lectures set forth the principles of general and descriptive physiology, and suggest some of its relations to the allied sciences, especially anatomy. In the laboratory the stu-

dent has opportunity to acquire a degree of technical skill in the use of instruments and apparatus, demonstrating for himself meanwhile some of the most important facts of biological function, a specialty being made of an acquaintance with the nature of protoplasm. A strict practical examination may be held at the end of the year in the laboratory. The conferences give each student opportunity to become familiar with the literature on important interesting physiological topics, which are then presented in written reports and freely discussed by the whole class. Record both of the attendance and of the quality of the work done in the laboratory and recitation-room will be kept, and, with the conference, will largely help to determine the standing of the student in the class. In addition, a three-hour written examination covering the entire work of the year is held at the completion of the work, besides the important subsidiary written examinations, monthly, and weekly written tests.

A reviewing course in physics as related to physiology, given by the department of physics in the College of Letters, is a part of this course. This year the lectures and demonstrations are given by Professor Harry G. Chase.

Advanced and research work in physiology will be provided for competent students, by special arrangement with the head of the department. Work in this department is also offered to candidates for the degree of Master of Arts. The constant aim is to adapt the work of each student both to his needs and to his capabilities.

GENERAL CHEMISTRY

The course in general chemistry consists of descriptive chemistry and qualitative analysis, with so much of theoretical chemistry as is necessary for a proper understanding of the subject.

The classification of the carbon compounds is also taken up at considerable length, and special reference is made to those which are of interest in the study of medicine. The instruction is by lectures, recitations, and practical work by the students in the laboratory. There are five lectures, two recitations, and six

or more hours of laboratory work for each student, every week. Much attention is given to qualitative analysis for the sake of the valuable training which it imparts, and the knowledge of chemistry which is incidentally gained. The importance of this knowledge is evinced by the fact that it is the only non-professional subject that is required in most medical schools. The aim is to impart such information in chemistry as is necessary to the intelligent physician. At the same time any who wish to pursue the study further than is required of every graduate may do so by special arrangement.

Certificates of satisfactory completion of Chemistry 1, 2, and 3, in the academic department of Tufts College, will be accepted in the Medical School in place of General Chemistry. It is intended to make this course lead directly to the Medical Chemistry of the second year, and it includes much of the preliminary work of that course.

HISTOLOGY AND EMBRYOLOGY

The work in histology covers the first half of the school year, and is both didactic and practical. The practical work in the laboratory is emphasized. Here the student comes into the most intimate relation with the elements of the body, the legitimate objects of his study. He learns to use the microscope and to manipulate sections. Being required to draw what he sees, he forms a mental picture of the objects of study which he never forgets.

The department aims to bring before the student the latest utterance of the best authorities, and to present the subject from the standpoint of the medical student. It must be obvious that histology, dealing as it does with the tissue elements of the body in their normal condition, is vitally important in the study of pathology, when it is understood that it is morbid changes in these elements which constitute pathological conditions. The student's future study of pathology is kept constantly in mind, and the teaching of the department has a direct bearing upon that end.

Embryology will be taught during the second half-year.

There will be three exercises each week, in which the subject will be presented so far as to give the student a knowledge of the origin of the tissues in the embryo, and to furnish him with an understanding of such conditions as will aid him in the study of obstetrics. The department is furnished with microscopes, the use of which, on payment of a small fee, will be afforded to such as are unable to furnish instruments of their own.

Written exercises and recitations will form a part of the course. Ninety hours of laboratory work are required.

ELEMENTARY HYGIENE

During the first half of the Freshman year, elementary hygiene is taught, together with the benefits to be derived from pure and wholesome associations, with the object of developing high moral, mental, and physical qualities.

PHARMACOLOGY

Instruction in pharmacology consists of lectures, recitations, and laboratory exercises, twelve hours a week throughout the first half-year. Especial attention is given to the physiological action of drugs in its relation to their therapeutical application, and to the relation always existing between therapeutics and physiological and pathological laboratory work. The laboratory course is designed to familiarize the student with all medicinal preparations and processes, and consists of exercises in which the class in sections is led to this result practically.

Prescription writing and the metric system will receive careful attention. Such of the recent additions to *materia medica* as are deemed worthy will be properly considered.

CHEMICAL PATHOLOGY AND TOXICOLOGY

REQUIRED COURSE

The course includes lectures, recitations, demonstrations and practical laboratory work.

Subjects comprise chemistry of urine, feces, gastric contents, blood, bile, saliva, milk, calculi, fats, carbohydrates, proteins,

etc. Special attention is given to the chemistry and microscopy of the urine, feces, and gastric contents. These subjects occupy about one-half the laboratory exercises.

Diagnosis of renal and gastric diseases from chemical and microscopic findings is fully considered in both lectures and recitations.

The lecture and laboratory course in toxicology is comprehensive. Students are required to determine the identity of various poisons in stomach contents and in food.

Written and practical examinations are held at frequent intervals.

OPTIONAL COURSE

Research Work in Physiological Chemistry. Students must obligate themselves to spend at least a half-year, and write a thesis upon the result of their investigation. This course is similar to that given in the Graduate School for the degree of Master of Arts.

PATHOLOGY

The work in pathology and bacteriology will occupy the attention of the students during the second half of the second year. The instruction in pathology will consist of lectures, recitations, demonstrations, and practical laboratory work. It will be the aim to develop in the student a thorough knowledge of the causes, course, and results of pathological processes. Daily lectures (five times a week) will be supplemented by daily recitations, based upon a syllabus covering the subjects of general pathology and special pathology.

Demonstrations of gross pathological specimens, obtained from operations and autopsies at the Boston City Hospital, the Massachusetts General Hospital, and other institutions, will be held frequently, as material is obtained. The supply of fresh material is very large, and it is usually possible to illustrate all of the common disease processes and many of the rare lesions, during the time when the class is at work. The work will include active participation by the students, who will be expected to section, study, and report upon specimens. Instruction in autopsy technique will be given in the amphitheatre of the School.

The work in pathological histology will include a three-hour exercise daily, five times a week. Students will mount and make drawings of sections obtained from human and experimental lesions, comprehending all the important subjects of general and special pathology. Considerable attention will be paid to surgical pathology. Preserved gross specimens illustrating the lesions studied will be demonstrated in connection with the laboratory exercises.

Written recitations will be held, without notice, at irregular intervals throughout the term. The standard attained by the student in these exercises will influence his final mark in the subject. Final examinations will be held at the end of the year, three hours of written and two hours of practical work. A report on gross specimens may be included.

Microscopes will be loaned to students for a small fee.

BACTERIOLOGY

Bacteriology is taught as a companion study with pathology. As infectious processes are taken up, the bacterial causes are studied in connection with the pathology of the diseases that they produce, in such a way that a comprehensive view of the cause and effect may be obtained. Attention is paid to the technical details of laboratory work. The methods of bacterial action, the elaboration of toxins, the subject of immunity, and the important bearings of asepsis, antisepsis, and disinfection are especially emphasized. Particular attention is also paid to all practical bacteriological tests used in medicine.

The bacteriological laboratory presents adequate facilities for the intelligent demonstration of this subject. In addition to the usual laboratory work, facilities are afforded students for individual work. In connection with the demonstration of gross pathological specimens, a study of bacteria present is made, both by smear and culture. The recitations in this subject will include both oral and written exercises, and practical examinations will be held throughout the year.

The final examination will consist of two hours of written and one hour of practical work. The practical examination

will consist of the examination of an unknown specimen, requiring the application of a bacteriological test of clinical value.

PHYSICAL DIAGNOSIS

This is an elementary course in the study of physical signs in health and disease, and is the foundation for the study of Clinical Medicine. Special attention is given, in the explanation of physical signs, to the principles of physics, and to the facts of anatomy and physiology upon which they are based. The course follows the instruction in Medical Anatomy, part of the course in Applied Anatomy of the first year, and leads to the course in Medical Diagnosis in the third year. The course consists of one lecture a week throughout the second year (thirty-two lectures), and fifteen exercises in sections, chiefly on elementary percussion and auscultation.

BANDAGING AND SURGICAL TECHNIQUE

Bandaging and surgical technique is given to students of the second year, and consists of practical work in applying bandages, dressings, splints, etc. The course is preceded by lectures and demonstrations by the Demonstrator of Bandaging and Apparatus. Upon the conclusion of the lectures, each student receives individual instruction in the subject, and must show himself skilled in this work before completing the course.

During the second semester a series of lectures will be given upon surgical technique.

The course is a part of the work in Surgery.

THEORY AND PRACTICE OF MEDICINE

The work prescribed in the department of general medicine has been carefully planned. As the studies of the second year are intended to prepare the student for the study of the theory and practice of medicine, so is this course intended to prepare for the clinical courses of the fourth year. To this end a systematic series of lectures is offered, including such general diseases as are not considered in the special courses. Three hours a week are devoted to these lectures. They comprise a detailed description of each of the diseases under consideration. The diseases are discussed upon the uniform plan of a descrip-

tion of the affection, its synonyms, history, cause, pathological changes, symptoms, complications, diagnosis, prognosis, prevention, and treatment. Supplementary to these lectures, a weekly quiz class is held. By such thorough and systematic study of the diseases he is to meet in the clinical work of the fourth year, the student is prepared to appreciate in the fullest degree the varying phenomena of daily practice.

SURGERY

The course in surgery of the third year consists of lectures covering the principles of general surgery, attendance at clinics, recitations, and written quizzes. The instruction in this year prepares the student for the courses of the fourth year in clinical, abdominal, rectal, genito-urinary, gynecological, and orthopedic surgery.

The class attends the lecture in clinical surgery at the Boston City Hospital one morning of each week throughout the school year, and a similar exercise at the Boston Dispensary, one morning each week from October 1 to April 1. At the latter exercise, the time is principally devoted to demonstrating from the case the various conditions which a practitioner meets in general practice. So far as possible, cases are grouped, and one morning of each week is devoted to the consideration of a single subject, with many cases illustrating the condition under discussion.

The class, divided into small sections, attends the regular surgical clinics of the School each week throughout the school year at the Boston City Hospital, the Boston Dispensary, and the Carney Hospital.

At some time after the course in bandaging and surgical technique, but before graduation, each student must present a certificate stating that he has served satisfactorily as surgical dresser for at least one month in some institution approved by the Faculty. All students who have not already taken the course in bandaging must make arrangements with the demonstrator to complete this course before January 1 of their third year.

LARYNGOLOGY

Instruction in the diseases of the nose and throat is both didactic and clinical. A systematic course of lectures is given to the third-year students in the amphitheatre of the School. These lectures are illustrated with colored diagrams, models, pathological specimens, and the exhibition of instruments. The opaque-projection apparatus is used at the close of each lecture.

Clinical instruction in laryngoscopy and rhinoscopy is given to small sections of the class at the Boston Dispensary. This work is required.

An elective course, mainly practical, is given to the fourth-year students during the last half-year. Special attention is paid to the technique of instrumentation, also to general diagnosis and treatment. By the actual examination of cases the student is made familiar with the diseases the family physician is expected to treat. During this course the students see the more important operations of the nose and throat. Practical lectures are given at the School. The class will visit, in sections, the clinics of the Boston Dispensary and St. Elizabeth's Hospital.

NEUROLOGY

The Department of Neurology is under the direction of Dr. Morton Prince, and the courses embrace in their scope required and elective work.

The work of the third year is required and consists of:

(1) Clinical and didactic lectures given at the Boston City Hospital once a week by Dr. Prince.

(2) Lectures on the anatomy, physiology, and pathology of the nervous system are given at the Medical School once a week by Dr. Tower, supplemented with instruction by sections in the laboratory in the microscopical examination of the normal and pathological nervous system.

Both these course are given during the first half of the school year.

OPHTHALMOLOGY

The course in ophthalmology will be of the most practical character possible, being designed to give the general practitioner such knowledge of the subject as is most essential to his practice. The lectures will be given twice a week, the first half of the school year. For clinical work the class will be divided into small sections, preparatory to instruction at the Massachusetts Charitable Eye and Ear Infirmary and the Carney Hospital. The fourth-year elective students will be given personal instruction by all members of the department throughout the school year.

OBSTETRICS

Instruction in obstetrics consists of lectures, recitations, conferences, and clinical teaching. Lectures are illustrated by plates and the use of the manikin. Each student is required to care for at least two cases (clinical instruction being given with one of these), attending them throughout convalescence, and handing in a written report. Some of these reports will be read before the class, and subjected to discussion and criticism by class and instructor.

PULMONARY DISEASES AND CLIMATOLOGY

A chair of pulmonary diseases and climatology was established some years ago, and Dr. Edward O. Otis, Physician to the Free Home for Consumptives, and the tuberculosis department of the Boston Dispensary, formerly president of the American Climatological Association, was elected head of this department. Medical climatology will receive special attention in relation to the climatic treatment of tuberculosis. The methods of sanatorium treatment will be discussed, and one or more sanatoriums visited during the year. "The tuberculosis class," "the day camp," and other modern methods of treating tuberculosis are also given attention.

A limited number of students of the fourth year who desire to assist at the tuberculosis clinic of the Boston Dispensary will have opportunity to do so, and should apply to Dr. Otis. In this department special attention is devoted to pulmonary tuber-

culosis, concerning which instruction is given, both by didactic and clinical lectures, to the students of the third and fourth years. Special clinical instruction, with opportunities for the physical examinations of patients, will be given to the students of the third and fourth classes, in small sections, at the clinic for pulmonary diseases in connection with the Boston Dispensary, and at the Free Home for Consumptives. The detection, treatment, and prevention of pulmonary tuberculosis will be thoroughly studied in this class.

CLINICAL TUBERCULOSIS

A special elective course in clinical tuberculosis is given by Professor Otis during the months of January, February, and March. It will pay special attention to the early stages of the disease, and will deal generally with the diagnosis, prognosis, treatment, and prophylaxis of pulmonary tuberculosis. There will be at least twenty-five clinical exercises, and a required essay, or examination.

GENITO-URINARY DISEASES

The required course in Genito-Urinary Diseases will commence in the second half of the third year, when the didactic lectures in this subject will be given. Clinical instruction will be given during the first half of the fourth year.

GYNECOLOGY

Instruction in gynecology is given both by lectures and clinical teaching. Lectures are given to the third-year students twice a week during the second term. Once a week a quiz is held on the lectures.

DISEASES OF CHILDREN

Instruction in the diseases of children consists of clinical lectures, didactic lectures, individual drill in practical history taking, and physical examination in an out-patient clinic and bedside ward visits. The clinical advantages offered to students in this department are extensive. Examples of nearly all the affections of infancy and childhood are shown, including the rare diseases which are seldom seen outside of the clinics of a large city. An

exceptional opportunity is offered for instruction upon and observation of the contagious diseases in small sections at the Hospital for Infectious Diseases. The clientele at the Children's Department of the Boston Dispensary, at St. Mary's Infant Hospital, at the Tremont Dispensary, and during the summer months on the Floating Hospital, is available for the use of the Department.

MEDICAL DIAGNOSIS

The instruction in Clinical Medicine during the third year is given under the head of Medical Diagnosis. The course continues throughout the third year. Two hours a week at the school are devoted to lectures and recitations. This is supplemented by two clinical lectures at the Boston City Hospital, illustrating the subject. In addition the class, in sections, attends ward visits and medical clinics. An important part of this clinical work is given under the supervision of the Department of Pulmonary Diseases. The work in this course is closely correlated with the course in Theory and Practice.

HYGIENE AND SANITATION

Hygiene and sanitation are taught during the third year. The course includes public sanitation, industrial occupations, house and school construction and inspection, water supply, sewerage systems, disinfection, quarantine, preventable diseases, vital statistics, sanitary codes, and medical ethics.

Students in the third year will be instructed by Dr. Hollis in the chemical and microscopical examination of air, foods, water, and sewage, and demonstrations will be given to show the detail work of public health officers, with the object of qualifying graduates for such positions.

HEMATOLOGY

The course in hematology consists of sixteen lectures and twelve two-hour laboratory exercises,—forty hours in all for each student during the first semester of the third year,—with occasional clinical lectures at the Boston City Hospital. It is

given as a sub-department of Clinical Medicine, and it is the aim to adapt it to the needs of the future practitioner. The lectures deal with diseases of the blood from a clinical as well as from a laboratory standpoint. The first laboratory exercises consist of preliminary instruction in the technique of blood examination, followed by practical work in blood pathology. A permanent collection of some three thousand microscope slides and a number of excellent wall-charts are also available. A laboratory note-book has been prepared, with brief descriptions of technique, and blank pages for drawings, notes, and reports. It also contains the clinical histories of the cases studied in the laboratory.

CLINICAL MEDICINE

The aim of the work in Clinical Medicine is to give the student a practical acquaintance with disease. The instruction in this department begins with Medical Anatomy (part of the course in Applied Anatomy), in the second semester of the first year. Then follow the course in Physical Diagnosis in the second year and the course in Medical Diagnosis in the third year. The fourth-year course in Clinical Medicine is a continuation and farther development of this work.

The instruction consists of two clinical lectures at the Boston City Hospital, one clinical lecture (Pulmonary Diseases) at the Boston Dispensary, and two hours at the School. One of these latter hours is given to conferences on cases which the students have studied, and the other is given partly to instruction in practical therapeutics and dietetics, and partly to exercises in conjunction with the Department of Pathology on clinical pathology, — the clinical and pathological study of actual cases.

In addition, abundant opportunities for clinical study are offered, in ward visits and other medical clinics. This instruction is given chiefly at the Boston City Hospital, the Boston Dispensary, and the Free Home for Consumptives. The work in Pulmonary Diseases in the fourth year is regarded as part of the course in Clinical Medicine.

The marks throughout the various courses of the Department of Clinical Medicine are based on practical work and the report of cases, as well as on written examinations.

CLINICAL SURGERY

The work in clinical surgery for the fourth year consists of lectures, conferences, attendance at clinics and operations.

There is one amphitheatre clinic a week at the Boston City Hospital throughout the school year, at which cases are presented, examined, and fully discussed before the whole class. The material at hand in the Hospital presents in the course of the year opportunity to illustrate a very wide range of general surgery. Two supplementary lectures are given at the School, giving a systematic review of the field of clinical surgery.

Students of the fourth-year class in sections attend the surgical clinics at the Boston City Hospital, the Boston Dispensary, the Carney Hospital, and the Charity Hospital, from October 1 to May 15. At these exercises students examine the various cases and report to the instructor, in this way becoming practically familiar with diagnostic methods. Students in this class also have opportunities of administering ether and assisting at operations.

Working positions as surgical out-patient dressers are open to the students at the City Hospital, Boston Dispensary, and elsewhere, and this opportunity for practical work is taken advantage of by many students. Opportunity is offered for a few picked men to serve as surgical dressers in the house, at the Boston City Hospital, for one or two months during the school year.

Clinical conference cases, two in number, are assigned to each student. Each of these cases must be carefully studied and written out in detail, giving the diagnosis, prognosis, and treatment, and concluding with a thorough discussion of all important points. The most instructive of these papers are selected for reading before the class, and are discussed by both instructor and class. The exercises in clinical conference commence some time after November 1.

OPERATIVE SURGERY AND SURGICAL ANATOMY

The work in operative surgery has been enlarged by the addition of a course in surgical anatomy, given by the department of anatomy in conjunction with the department of clinical surgery. This course, which includes three exercises a week for five weeks, consists of demonstrations of surgical landmarks upon the living model, the skeleton, and the cadaver, and a review of anatomy in general. Especial emphasis is laid upon that part of anatomy which is important in operative surgery.

Regional anatomy is demonstrated, and at the conclusion of the review given by the department of anatomy the important surgical operations of the region under discussion are demonstrated by members of the surgical staff. Thus surgery of the neck is first treated from the standpoint of surgical landmarks, pointed out upon the living model, the skeleton, and the cadaver. The surgical anatomy of the neck is then demonstrated on the cadaver, and at the conclusion of these exercises by the Department of Anatomy, the important surgical operations of the neck are demonstrated by members of the Department of Surgery.

The same course is pursued with all parts of the body, and at the conclusion of the anatomical teaching concerning any region, the special operations of that region are demonstrated by members of the surgical staff.

At the conclusion of the course the class is divided into small sections, and each section performs the various operations upon the cadaver in the dissecting room. Each section is supervised by an instructor.

The course in operative surgery and surgical anatomy as above outlined is a part of the required work in clinical surgery.

NEUROLOGY

The Neurology for the fourth-year class is both required and elective. The required courses consist of clinical and didactic lectures by Dr. Prince and Dr. Thomas; clinical exercises by Dr. Fairbanks, in sections, at which instruction is given in methods of examination of the patient, and diagnosis of the dis-

eases of the nervous system; and clinical conferences, at which the student makes a written report of a case which he has himself studied and diagnosed. The report is then discussed by the class.

The elective course consists of clinical exercises by Dr. Thomas. In these clinical exercises the student has an opportunity to examine and study the patient for himself, thus becoming experienced in the methods of examination, and acquainted with nervous diseases as present in the subject.

The lectures and exercises are given at the Boston City Hospital during the first half of the school year.

PSYCHO-PATHOLOGY AND PSYCHO-THERAPEUTICS

The course in psycho-pathology is under the direction of Dr. Morton Prince, with the co-operation of Professor G. V. N. Dearborn. It consists of clinical and didactic lectures on mental physiology and the pathology of the psychoses. The course is required for fourth-year students. The lectures are given at the Boston City Hospital and at the Medical School, three times a week during the first half-year. Among the subjects included are: the mechanism of memory; integrative action of the nervous system; emotion; hypnotism; suggestion; the sub-conscious, co-conscious and unconscious; hysteria neurasthenia; obsessions; dissociations of personality; and the principles of psycho-therapeutics. These are only a few of the subjects treated.

MENTAL DISEASES

Instruction in mental diseases will be afforded by a course comprising didactic and clinical lectures, to be given weekly from January to the middle of May. Ten or more clinics will be held at the Boston Insane Hospital, where a large number of patients are received annually. Two clinics will be given also at the Massachusetts School for Feeble-Minded, at Waverly. It will be the aim of this course to allow the students to become familiar with the prevalent forms of mental trouble, the early symptoms of insanity, and with the methods of commitment. Especial attention will be given to mental defects in children.

PATHOLOGICAL TECHNIQUE

The course in pathological technique is offered to students of the fourth year. It is intended to develop in the student a special familiarity with the diagnostic tests which are used in pathological and bacteriological work. The course will include studies of pathological products from the standpoint of rapid diagnosis, as the preparation of free-hand and frozen sections, together with the rapid celloidin imbedding of fresh tissue; training in methods of description and the preparation of protocols; special bacteriological tests, notably the opsonin test and the preparation of vaccines; the study of agglutination by Wright's method; inoscopy, cytodiagnosis, etc.

This course is expected to be of particular value to students who intend to obtain house-officerships in small hospitals where regular pathological appointments are not made.

ABDOMINAL SURGERY

Instruction is given in abdominal surgery, including appendicitis, hernia, and the major operations on the female pelvic organs, by two lectures and one quiz weekly to fourth-year students during the first term, and by demonstrations on the cadaver, clinical conferences, and attendance of subdivisions of the class at operations.

MEDICAL JURISPRUDENCE

In most institutions instruction in legal medicine is limited to those subjects which prepare the graduate for the work of the medical examiner or coroner, in spite of the fact that only a small number of practitioners ever have opportunity to exercise these functions.

The course which will be offered to the fourth-year class is intended to be broader in scope and it will include:

Instruction in the rights and duties of the physician in court, by Justice William Schofield, of the Superior Bench of Massachusetts.

A study of the legal relations of the physician to the public, to the profession, and to his patients, by Dr. F. J. Keleher, member of the Boston Bar.

Instruction in the duties of the medical examiner, illustrated by practical demonstration of medico-legal cases, by Dr. Leary.

ORTHOPEDIC SURGERY

The work in orthopedic surgery consists of one lecture, four clinics, and one quiz each week of the first half-year, and of two exercises a week at the Carney Hospital during the second half-year, for those electing the subject. One of the clinics of the first half-year is in special orthopedic pathology. The work of the second half-year consists of practical exercises in diagnosis and treatment in the out-patient department, and of ward visits, with opportunity to see the operative work, especially the orthopedic surgery of the adult.

OTOLOGY

Instruction in otology consists of lectures on the anatomy, physiology, and pathology of the ear, at the Massachusetts Charitable Eye and Ear Infirmary. These lectures are illustrated by Politzer's charts of the human ear, models, anatomical specimens of the temporal bone, bone-corrosion preparations, and microscopical sections of the organ of hearing.

Clinical and practical instruction in otology is given to small sections of the class at the close of each lecture. The students witness the examination and treatment of patients, are invited in class sections to be present at the major operations upon the ear, and to accompany the aural surgeon in his daily rounds through the wards.

An elective course for the fourth-year students consists of clinical work at the Massachusetts Charitable Eye and Ear Infirmary and the Carney Hospital.

DISEASES OF THE RECTUM

The course in diseases of the rectum will consist of weekly lectures during the first half-year at the School, and clinical instruction every morning at the rectal department of the Boston Dispensary. Each student will have ample opportunity to examine patients, and in suitable cases to apply treatment. Especial attention will be paid to so-called "office treatment" of this class of diseases.

DERMATOLOGY

The instruction in dermatology will consist of weekly lectures, from January to April. Also, from January to June, there will be three weekly clinics at the Boston Dispensary, where cases of skin diseases will be shown to the class, with an opportunity for each student to examine the cases personally.

GENITO-URINARY DISEASES

Clinical instruction in genito-urinary diseases is given at the genito-urinary department of the Boston Dispensary. All the students of the fourth year are required to attend the clinic in sections permitting individual instruction, during the first semester, and are taught the chief points of modern genito-urinary technique. Students electing this course receive additional instruction in sections during the second semester. As the number of patients attending this clinic is very large, each student has an opportunity to see many cases of genito-urinary diseases and to become familiar with their diagnosis and treatment.

ELECTRO-THERAPEUTICS

The course in electro-therapeutics will consist of twelve lectures, with occasional quizzes. It will include a brief review of the principles of electro-physics, the nature, methods of production, and physiological action of the various forms of electrical energy, together with a brief discussion of their therapeutic uses and limitations.

CLINICAL GYNAECOLOGY

The first essential being the ability to make an exact diagnosis, the students of the fourth-year class, in sections of two students only, are given abundant opportunity to make physical examinations under proper supervision. The daily clinics (morning and afternoon) of the Dispensary for Women; of the Boston Dispensary; the Tremont Dispensary; St. Elizabeth Hospital, and Mount Sinai Hospital provide a course in methods of diagnosis and treatment superior to any other in New England. Adequate provision is also made for students to witness operations in plastic and major pelvic surgery.

Preparation

The work demanded by the first year of the Medical School is severe. It has been found that high-school preparation is frequently inadequate. Hence prospective students of medicine are earnestly advised to pursue at least one year of preparatory study after graduation from the high school and before entering upon distinctively medical studies. They will obtain thus a more thorough grounding, and will also familiarize themselves with the laboratory methods which form the basis of the work of the first and second years of the Medical School.

Tufts College is prepared to give instruction adapted to the needs of such persons. They may enter the College as special students, and it is suggested that the studies most valuable to them are Chemistry, Biology, Physics, English, German, and French. The following is an outline of the studies advised for those who take one year in the College as preparatory to medicine:—

1. Biology 3. Two lectures and four hours of laboratory work each week upon the structure and development of selected vertebrate types. The forms studied in the laboratory are the dogfish, salamander and cat, with some microscopic work on embryos and tissues, and the study of skeletons of several animals.

2. Chemistry 1. Two lectures and six hours of laboratory work each week. The lectures cover general theoretical and descriptive inorganic chemistry. The laboratory work is devoted to the principal elements and their compounds.

3. English 1 and 2. Three hours a week of instruction in composition and rhetoric.

4. German or French.

5. Elective.

TEXT-BOOKS

[For the session 1909-10]

The first book mentioned is preferred as a text-book, the others being recommended as collateral reading.

Anatomy.—Gray, Morris, Cunningham, Eisendrath, Haynes's Dissector.

General Chemistry.—Simons's Manual of Chemistry, Witthaus, Storer and Lindsay, A. H. Elliott's Qualitative Analysis.

Histology.—Syllabus, Böhm and Davidoff, Stohr, Ferguson, Bailey.

Physiology.—Syllabus, Dearborn's Text-Book of Physiology, Howell, Landois, Verworn, Schäfer, Morat, Hutchison.

Bacteriology.—Syllabus, Muir and Richie, Park, Levy and Klemperer, McFarland, Abbott, Lehmann and Neumann, Sternberg.

Chemical Pathology and Toxicology.—Ogden's Clinical Examination of the Urine, Purdy's Practical Urinalysis and Urinary Diagnosis, Simon's Physiological Chemistry, Hammarstein's Physiological Chemistry, Abderhalden's Physiological Chemistry, Taylor's Medical Jurisprudence, Peterson and Haines' Legal Medicine and Toxicology, Holland's Medical Chemistry and Toxicology, Wood's Chemical and Microscopical Diagnosis.

Materia Medica and Therapeutics.—Hare, United States Dispensatory, Gerrish's Prescription Writing.

Pathology.—Syllabus, Stengel, Ziegler, Coplin, Mallory and Wright's Technique, Durck's Pathological Histology, Cohnheim, Green, American Text Book.

Physical Diagnosis.—DaCosta's Physical Diagnosis, Ander's Physical Diagnosis.

Children's Diseases.—Holt's Diseases of Infancy and Childhood, Kerley's Treatment of Children's Diseases, Cotton's Medical Diseases of Infancy and Childhood, Thompson's Clinical Examination and Treatment of Sick Children.

Gynaecology.—Greig-Smith, Byford, Dudley, Kelly, Reed.

Hematology.—Ewing's Clinical Pathology of the Blood.

Hygiene.—Bergey, Principles of Hygiene; Egbert's Hygiene and Sanitation.

Laryngology.—Coakley, Knight, Kyle, Shurley.

Medical Diagnosis.—Musser's Medical Diagnosis.

Obstetrics.—Hirst, Reynolds, Jewett, American Text-book.

Ophthalmology.—Fuch, Swanzey, May.

Practice of Medicine.—Osler, Tyson, Forcheimer's Prophylaxis and Treatment, Anders's Practice of Medicine, Thompson, Strümpell, Eichhorns.

Pulmonary Diseases.—Babcock's Diseases of the Lungs.

Surgery.—Lexer-Bevan, Brewer, International Text-book, American Text-book, Stimson on Fractures and Dislocations.

Clinical Gynaecology.—Dudley, Garrigues.

Clinical Medicine.—Osler's Practice of Medicine, Wood and Fitz's Practice, Ander's Practice of Medicine, Forcheimer's Prophylaxis and Treatment.

Clinical and Operative Surgery.—Brewer, International Text-book, American Text-book, Wharton and Curtis, Roberts, Stimson on Fractures and Dislocations, Scudder on Treatment of Fractures, Binney's Operative Surgery, Treves's Surgical Anatomy.

Dermatology.—Diseases of the Skin by Hyde and Montgomery, Duhring, Stelwagon, Crocker, Kaposi, Besmer.

Diseases of the Rectum.—Kelsey, last edition ; Ball, last edition ; Tuttle, Gant, second edition.

Genito-Urinary Diseases.—Keyes, Taylor, Morton, Caspar.

Mental Diseases.—Brower and Bannister's Practical Manual of Insanity, Diefendorf's Clinical Psychiatry, Berkely's Mental Diseases, Wood's Reference Handbook, article on Insanity, Clouston's Clinical Lectures on Mental Diseases, Tuke's Dictionary of Psychological Medicine, E. Regis's Practical Manual of Mental Medicine, Outlines of Psychiatry by Wm. A. White.

Neurology.—Oppenheim, Church and Peterson,

Orthopedics.—Bradford and Lovett, last edition.

Otology.—Buck, Politzer and Bennett's System of Diseases of the Ear, Throat, and Nose.

Medical Dictionary.—Gould, Dunglison, Dorland.

Requirements

FOR ADMISSION TO THE FIRST-YEAR CLASS

Candidates for admission to this School, except as hereafter stated, must pass a written entrance examination in English, Algebra, Plane Geometry, Physics, Latin, and one subject to be chosen from the following: American History, Biology, Chemistry, French, or German.

(a) English: a composition of two hundred words, to be criticised in relation to expression of thought, construction of sentences, punctuation, spelling, and handwriting. The subjects for the examination in 1910 will be chosen from the following:—

(1) Shakespeare's Merchant of Venice; (2) Thackeray's Henry Esmond; (3) Burke's Speech on Conciliation with America; (4) Scott's Ivanhoe.

Every candidate is expected to have read intelligently all the books prescribed.

(b) Algebra: the fundamental operations, factors, fractions, simple equations, simultaneous equations of the first degree, involution and evolution, exponents, and quadratic equations. Texts similar to those of Wells or Wentworth are suggested for study.

(c) Plane Geometry.

(d) Physics: an examination suited to those who have studied such text-books as Gage's Elements of Physics, or Carhart's and Chester's Elements of Physics.

(e) Latin: a sight translation of easy Latin, as, for example, simple passages from Cæsar's Gallic War; also the translation into Latin of easy English sentences based on the first fifteen chapters of Book I of the Gallic War.

1. American History: The text-book suggested is McLaughlin's History of the American Nation.

2. Biology: The text-books suggested are Colton, Zoology, Descriptive and Practical; Jordan, Kellogg and Heath, Animals; Kingsley, Elements of Comparative Zoology; Needham, Lessons in Zoology.

3. Chemistry: The text-book suggested is Newell's.

4. German: Kayser and Montesu's Brief German Course, or Edgren and Fossler, or the "first part" of the Joynes-Meissner Grammar, together with some seventy-five pages of easy German from such texts as are commonly read in the first year of the preparatory school, will represent the amount of preparation expected.

5. French: Grandgent's Short French Grammar, or the "first part" of any one of the commonly used grammars, together with about one hundred pages of easy French (as above).

In modern languages the equivalent of one year's study, with four periods a week, is required.

Students who have failed in not more than three of these subjects may be admitted, subject to condition.

Students who have failed to remove their entrance conditions before the beginning of the second year will be catalogued with the first-year class.

The place and dates of the entrance examinations for the session 1910-11 are given on page 234.

EXCEPTIONS.—Graduates of approved colleges or universities, graduates of approved high schools, and students holding Regents' certificates of the State of New York are admitted without examination. Commencing with the session 1910-11 graduates of approved high schools must present satisfactory certificates of proficiency in Latin and Physics.

Advanced Standing

Allowance is made for time spent in the study of medicine in other accredited medical schools, but no credit is given for examinations passed in other schools, except by special vote of the Committee on Instruction.

Students presenting evidence of a course equivalent to the

course in general chemistry given in the first year in this School are regarded as having anticipated this subject, upon passing the fall examination.

PROMOTION

To Second-Year Class

Students who have passed a majority of the first-year examinations, and who have removed all entrance conditions, are admitted to the second-year class. Students are required, however, to have qualified in General Chemistry before they are eligible to the Medical Chemistry of the second year.

To Third-Year Class

Students of the second-year class who have passed all the first-year examinations, and a majority of the second-year examinations, are admitted to the third-year class.

To Fourth-Year Class

Students who have passed all the studies of the first and the second year, and a majority of the studies of the third year, are admitted to the fourth-year class. No other students are admitted to this class, except by special vote of the Faculty.

GRADUATION

For the Degree of M.D.

Candidates for the degree of Doctor of Medicine must have fulfilled the following requirements:—

1. They must furnish certificates that they are twenty-one years of age.
2. The Faculty must be satisfied of their good moral character.
3. They must have attended four full courses of medical study at some accredited medical college, the last of which shall have been at this School as members of the fourth-year class, and no two courses in the same twelve months.
4. They must have passed all the required examinations, and have performed the required amount of laboratory and clinical work.

5. They must have satisfactorily dissected one half of the body, under the direction of a demonstrator of anatomy.
6. They must have paid all fees.

CHANGE OF REQUIREMENTS

The Faculty reserve the right to change all requirements without further notice.

HONORS

Students who have attended four full courses of lectures at this School, and have obtained an average of ninety per cent. in their examinations, shall be eligible to "*summa cum laude*"; and students who have obtained an average of eighty per cent. shall be eligible to "*cum laude*," in connection with the degree received.

STANDING AND CERTIFICATES

At the end of the session a statement of his standing for the year is sent by mail to each student. These certificates must be preserved for future reference. No marks will be sent or credit given to any student who is in arrears with the Bursar.

FEES AND EXPENSES

A matriculation fee of *five dollars* is payable each year.

A charge of *one hundred and fifty dollars* for tuition is payable in advance.

If desired, the tuition may be paid in instalments, in which case an additional charge of five dollars is made, and the fees are then paid as follows:—

First payment:—Five dollars for matriculation fee and seventy-five dollars on account of the tuition, a total of *eighty dollars*, payable at the beginning of the first semester.

Second payment:—Seventy-five dollars, the balance of the tuition, and five dollars, the additional charge, a total of *eighty dollars*, payable at the beginning of the second semester, or before February 1.

There is no charge for anatomical material or for laboratory supplies.

No student will be admitted to the exercises of the first half-

year who has not paid his matriculation fee and at least one-half the tuition, and no student will be admitted to the exercises of the second half-year who has not paid his fees in full.

Students leaving the school have no claim for tuition paid.

Students who have failed twice in a subject are required to pay a fee of five dollars for each subsequent examination in that subject.

POST-GRADUATE FEES

Post-graduate fee for graduates of other schools . . .	\$150.00
Single course	50.00
Post-graduate fee for graduates of this School . . .	60.00
Single course	30.00
Anatomical material	at cost

The Bursar of the College will be at the School Monday, Wednesday, and Friday, 2.30 to 5.00 P.M., from October 1 to June 1.

There are no scholarships connected with the School.

The expenses of living in Boston need not exceed those in small cities and villages. Good board, including room, fire, and light, can be obtained in the vicinity of the school at from \$5.50 to \$7 a week. Students will not be allowed to occupy rooms disapproved by the Faculty.

LIBRARIES

The students of this School have free access to the Medical School Library, to the Library of Tufts College, to the Boston Public Library, and to the Boston Medical Library.

The library at the Medical School is open daily from 9.00 a. m. to 5.00 p. m., except Sundays and holidays. This library is intended to provide *text books for reference*, and the latest editions of all text books used in the school are furnished. These cannot be taken from the Reading Room. In addition, the library contains a large number of reference books in general medicine and general surgery, and in all special branches of each. These works are loaned to the student free of charge, and can be taken out. Complete files of various medical journals provide a valuable addition to the school library.

The Boston Medical Library, which is situated near the School, has one of the largest and most complete collections of medical works in existence. It contains not only bound volumes of every important book in medical literature, but also a very extensive collection of monographs and pamphlets on special subjects. All the leading medical journals are on file for inspection. The Boston Medical Library extends its privileges, under certain conditions, free of charge to students of this School. Its rooms are open daily from Oct. 1 to May 31, from 9.30 A. M. to 10.00 P. M., except Sundays and holidays. The hours on Saturdays are from 9.30 A. M. to 6 P. M.

APPLICATIONS

Students who intend to enter the School for the first time must obtain from the Secretary an application blank, which they are required to fill out and return to him. Application blanks will be mailed upon request.

REGISTRATION

Registration is required of all students, each year. *Registration blanks for the session 1910-11 must be filled out and deposited with the Secretary on or before October 8, 1910.*

Registration is conducted at the school building only.

Summer Courses

The following subjects are offered during the summer months:—

PHYSIOLOGY

A course in physiology will be given during the months of June and July by, or under the direction of, the Professor of Physiology. For particulars of the course application should be made to Dr. Dearborn.

HISTOLOGY

A summer course will be given under the direction of the Professor of Histology. Particulars as to the scope of this work, and the fee, may be learned upon application to Dr. Bates.

MEDICAL CHEMISTRY

A summer class in medical chemistry is conducted by Dr. Thorpe. This is a laboratory course, and is given in the laboratory of the department of Medical Chemistry. For further particulars, apply to Dr. Thorpe.

THE DENTAL SCHOOL

Faculty of the Dental School *

FREDERICK WILLIAM HAMILTON, A.M., D.D., LL.D.	
PRESIDENT	Tufts College
HAROLD WILLIAMS, A.B., M.D., LL.D.	528 Beacon St.
DEAN, and <i>Professor of the Theory and Practice of Medicine</i>	
FREDERIC MELANCTHON BRIGGS, A.B., M.D. . . .	31 Mass. Ave.
SECRETARY, and <i>Professor of Clinical Surgery</i>	
CHARLES PAINE THAYER, A.M., M.D.	Philadelphia, Pa.
<i>Professor of Anatomy, Emeritus</i>	
HENRY JABEZ BARNES, M.D.	429 Beacon St.
<i>Professor of Hygiene</i>	
CHARLES ALFRED PITKIN, A.M., PH.D.	South Braintree
<i>Professor of General Chemistry</i>	
BYRON HOWARD STROUT, D.D.S.	Taunton
<i>Assistant Professor of Operative Technics and Instructor in Anesthesia</i>	
EDWARD WALTER BRANIGAN, A.M., D.D.S.	
<i>Professor of Clinical Dentistry</i>	2 Commonwealth Ave.
JOSEPH KING KNIGHT, D.M.D.	Hyde Park
<i>Professor of Prosthodontia</i>	
FRANK GEORGE WHEATLEY, A.M., M.D.	North Abington
<i>Professor of Materia Medica and Therapeutics</i>	
WILLIAM ELISHA CHENERY, A.B., M.D.	222 Huntington Ave.
<i>Professor of Diseases of the Nose and Throat and Instructor in Oral Syphilis</i>	
FREDERICK MORTIMER HEMENWAY, D.M.D. . .	175 Tremont St.
<i>Professor of Prosthetic Dentistry</i>	
GEORGE ANDREW BATES, M.Sc., D.M.D.	Auburndale
<i>Professor of Histology</i>	
EUGENE THAYER, A.M., M.D.	2683 Washington St., Roxbury
<i>Demonstrator of Anatomy</i>	

* When only street and number are given in the address, the street is in Boston. With the exception of the President, the Dean, and the Secretary, the names are arranged as far as possible in the order of academic seniority.

- GEORGE VAN NESS DEARBORN, A.M., M.D., PH.D. 6 Mason St.,
Professor of Physiology Cambridge
- FRANK ALEXANDER DELABARRE, A.B., D.D.S., M.D.
Assistant Professor of Orthodontia 164 Newbury St.
- JOHN WOOD FORBES, D.M.D. 419 Boylston St.
Assistant Professor of Operative Dentistry
- TIMOTHY LEARY, A.M., M.D. . . 17 Grosvenor Road, Jamaica Plain
Professor of Pathology and Bacteriology
- HARRY HOMER GERMAIN, M.D. 416 Marlborough St.
Assistant Professor of Anatomy

OTHER INSTRUCTORS

- HENRY HILDRETH PIPER, A.B., D.M.D. 7 Sycamore St.,
Instructor in Clinical Dentistry Winter Hill
- EDGAR OSGOOD KINSMAN, D.M.D. . . 5 Boylston St., Cambridge
Instructor in Clinical Dentistry
- FRED CARVILL MERRILL, D.D.S. Wollaston
Instructor in Prosthetic Dentistry
- WILLIAM RICE, D.M.D. 16 Arlington St.
Instructor in Clinical Dentistry
- WILLIAM PRESTON HOUSTON, D.M.D. . . . 419 Boylston St.
Instructor in Clinical Dentistry
- WALTER SUMNER KENYON, D.D.S. . . . 301 Westminster St.,
Instructor in Clinical Dentistry Providence, R. I.
- IVAN ALEXIS TEOFIL CENTERVALL, B.S., D.M.D. . 2 Park Sq.
Instructor in Clinical Dentistry
- KNUT JOSEPH LUTTROPP, D.M.D. 419 Boylston St.
Instructor in Porcelain Work
- LAURENCE WATSON STRONG, A.B., M.D. . . . 1631 Beacon St.,
Instructor in Pathology and Bacteriology Waban
- HARRY GRAY CHASE, B.S. Tufts College
Lecturer in Physics
- CHARLES HARVEY DAVIS, D.M.D. . 24 High St., Pawtucket, R. I.
Instructor in Clinical Dentistry
- DANIEL ARTELL NASON, D.M.D. 4 Pleasant St., Revere
Instructor in Clinical Dentistry

WYMAN HORACE STREETER, D.M.D.	100	Boylston St.
<i>Instructor in Clinical Dentistry</i>		
JOSEPH LEE CLAIR TAYLOR, D.M.D.	108	Dudley St.
<i>Instructor in Clinical Dentistry</i>		
WILLIAM MARTIN FLYNN, D.M.D.	474D	Broadway, S. Boston
<i>Instructor in Clinical Dentistry</i>		
GUY MONROE WINSLOW, A.B., PH.D.	145	Woodland Rd., Auburndale
<i>Instructor in Histology</i>		
JOHN HANCOCK EATON, D.M.D.		Roslindale
<i>Instructor in Clinical Dentistry</i>		
BURLEIGH CHILDS GILBERT, D.D.S.		Stoneham
<i>Instructor in Clinical Dentistry</i>		
WILLIAM GRAY ADAMS, M.D.	101	Newbury St.
<i>Assistant in Anatomy</i>		
ERVIN ARTHUR JOHNSON, D.M.D.	176	Federal St.
<i>Instructor in Clinical Dentistry</i>		
ORION KELLEY, D.M.D.		Winchester
<i>Instructor in Prosthetic Dentistry</i>		
SVERKER LUTTROPP, D.M.D.	30	Huntington Ave.
<i>Instructor in Clinical Dentistry</i>		
GEORGE FRANCIS McINTIRE, M.D.	5	Dana St., Cambridge
<i>Assistant Demonstrator of Anatomy</i>		
HENRY STETSON ROBINSON, D.M.D.		Attleboro
<i>Instructor in Clinical Dentistry</i>		
ROY CHURCHILL SKINNER, A.B., D.M.D.	118	Commonw'lth Ave.
<i>Assistant in Orthodontia</i>		
FREDERICK BOOTH STEVENS, D.M.D.		Everett Sq., Hyde Park
<i>Instructor in Clinical Dentistry</i>		
ROBERT EATON ANDREWS, A.B., M.D.	1044	Mass. Ave., Cambridge
<i>Assistant Demonstrator of Anatomy</i>		
HENRY DEMAREST LLOYD, A.B., M.D.	636	Beacon St.
<i>Assistant Demonstrator of Anatomy</i>		
LUTHER GORDON PAUL, M.D.	321	Beacon St.
<i>Assistant Demonstrator of Anatomy</i>		
EDWARD VALENTINE BULGER, D.M.D.	513	E. Broadway, S. Boston
<i>Instructor in Clinical Dentistry</i>		

- OLGA CUSHING-LEARY, M.D. . 17 Grosvenor Road, Jamaica Plain
Instructor in Pathology and Bacteriology
- HUGO CHARLES REITZ, D.M.D. 2 Commonwealth Ave.
Instructor in Prosthetic Dentistry
- WALTER GEORGE BRIDGE, D.M.D. 367 Boylston St.
Instructor in Prosthetic Dentistry
- HOWARD WARDWELL CHURCH, D.M.D. . . . 471 Hope St.,
Instructor in Clinical Dentistry Providence, R. I.
- JOHN DONOVAN CLARK, B.S., M.D. 416 Marlboro St.
Instructor in Anatomy
- WALTER FREEMAN NOLEN, M.D. 535 Beacon St.
Assistant Demonstrator of Anatomy
- JEPPE CHRISTIAN JEPSON, D.M.D. 30 Huntington Ave.
Instructor in Clinical Dentistry
- FARQUHAR DONALDSON CARTER, D.M.D. . 52 Savin Hill Ave.,
Instructor in Prosthetic Dentistry Dorchester
- CURTIS WILLIAM FARRINGTON, D.M.D. . 246 Huntington Ave.
Instructor in Clinical Dentistry
- FRANK EUGENE HASKINS, PH.G., M.D. . . 134 Huntington Ave.
Instructor in Pharmacology and Assistant Demonstrator of Anatomy
- ARTHUR CUSHING PEARCE, M.D. 543 Boylston St.
Assistant in Pathology and Bacteriology
- CAREY ROSCOE CHESTER, D.M.D. * Malden
Instructor in Clinical Dentistry
- ELTON SUMNER JEWETT, D.M.D. 17 Court St., Plymouth
Instructor in Clinical Dentistry
- JOSEPH BERNARD ROCKETT, D.M.D. 370 Bowdoin St., Dorchester
Instructor in Clinical Dentistry
- STANLEY BURTON THORBURN, D.M.D. . . . 299 Meridian St.,
Instructor in Prosthetic Dentistry E. Boston
- EUGENE URBANE UFFORD, D.M.D. 23 Tremont St.
Instructor in Prosthetic Dentistry
- JOSEPH MICHAEL BLAGDON, D.M.D. . 112 Main St., Charlestown
Instructor in Prosthetic Dentistry
- CHARLES CUMMINGS COLE, D.M.D. 1075 Boylston St.
Instructor in Prosthetic Dentistry

- GRACE ELIZABETH ROCHFORD, M.D. . 68 Paris St., East Boston
Assistant in Bacteriology
- FREDERIC WILBUR TUTTLE, D.M.D. . . 695 Parker St., Roxbury
Instructor in Prosthetic Dentistry
- WILLIAM HENRY EATON, D.M.D. 419 Boylston St.
Instructor in Clinical Dentistry
- JOSEPH ALOYSIUS MEHAN, M.D. . . . 1053 Gorham St., Lowell
Assistant in General Chemistry
- EVERETT MITCHELL BROWN, D.M.D. . . . 116 Huntington Ave.
Instructor in Operative Technics
- RAYMOND EUGENE GATES, M.D. 777 Tremont St.
Assistant in General Chemistry
- HAROLD GIFFORD METTERS, D.M.D. . . . 681 Washington St.,
Instructor in Clinical Dentistry Norwood
- ELWIN HARRISON WELLS, M.D. 30 Avon St., Wakefield
Assistant in Physiology
- HARRY HOWARD FLAGG, M.D. 30 Elm St., Charlestown
Assistant in Physiology
- ARTHUR LINWOOD MORSE, D.M.D. . 31 No. Common St., Lynn
Assistant in Orthodontia
- CHARLES EDWARD WHITNEY, D.M.D. Milford
Instructor in Clinical Dentistry
- SOLOMON HYMAN RUBIN, M.D. 10 Hancock St.
Assistant in Histology
- JAMES J. DUDDY, D.M.D. 183 Main St., Brockton
Assistant in Orthodontia
- ERNEST WILLOUGHBY GATES, D.M.D. 55 Rutland Sq.
Assistant in General Chemistry and Orthodontia
- HARRY WINFIELD PERKINS, D.M.D. 419 Boylston St.
Assistant in Orthodontia
- CHARLES BUTLER WRY, D.M.D. . Broadway and Mountain Ave.,
Assistant in Orthodontia Revere

LABORATORY ASSISTANTS

Anatomy

LAWRENCE K. KELLEY	Haverhill
BERNARD C. HEALEY	Boston
WILLIAM B. GILES	West Somerville
HAROLD W. MARTIN	Roxbury
GONZALO ESPEJO	Merida, Yucatan, Mexico

Physiology

RALPH W. BICKNELL	Canton, Me.
WILFRED G. FUNNELL	Fall River
ERLE D. FORREST	Boston
WILLIS P. MIDDLETON	Quincy
STANLEY F. DUNCAN	Quincy

Histology

RUSSELL B. SPRAGUE	Providence, R. I.
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General Chemistry

EDWARD L. MARR	Malden
JEFFREY J. WALSH	Fall River
ERNEST J. SMITH	Ipswich
JOHN H. T. SWEET, JR.	Hartford, Conn.

Medical Chemistry

CYRIL G. RICHARDS	Roxbury
HAROLD W. EAGER	Manchester, N. H.
FREDERICK W. O'BRIEN	Roxbury

Pharmacology

LAMERT OULTON	Port Elgin, N. B.
JEFFREY J. WALSH	Fall River
ALBERT W. COLWILL	Magnolia

OTHER OFFICERS

EDMUND WILBUR KELLOGG	24 Milk St.
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Assistant Treasurer

HERBERT TRUE BROWN*	Tufts College
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Bursar

EUGENE EVERETT SHEPARD	43 Boston Ave., W. Medford
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Acting Bursar

LINA A. MAYO	Winchester
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Stenographer

*Absent on leave.

LILLIAN M. TATTAN	Somerville
<i>Clerk to Secretary</i>	
MARY WRIGHT RICHARDSON	19 Brighton Ave., Allston
<i>Clerk of the Department of Clinical Dentistry</i>	
SARAH ELIZABETH MILLER	7 Haviland St.
<i>Clerk of the Department of Prosthodontia</i>	
FRANCES WILDER	75 Rutland St.
<i>Matron of the Department of Anesthesia and Extraction</i>	

STANDING COMMITTEES OF THE DENTAL SCHOOL

The Dean and the Secretary are members of all Committees, *ex officio*

ADMINISTRATION.—The President, Drs. Branigan and Bates

ADMISSION.—Drs. Leary, Bates, and Dearborn

NOMINATIONS.—Drs. Hemenway and Barnes

LIBRARY.—Drs. Knight and Bates

INSTRUCTION.—Drs. Knight, Branigan, Hemenway, and Bates

CATALOGUE.—Drs. Bates and Dearborn

WOMEN'S ADVISORY COMMITTEE.—Drs. Elizabeth A. Riley, Olga Cushing-Leary, and Edna Weil-Dreyfus

Student Government Board

The members for the current year of the Student Government Board of the Medical and Dental Schools are as follows:—

CHAIRMAN

James B. Bigelow, M '10

SECRETARY

Timothy J. Donovan, D '10

MEDICAL SCHOOL:

Daniel E. Welch, '10

Joseph F. Golden, '11

Philip E. A. Sheridan, '12

John Daly, '13

DENTAL SCHOOL:

Louis A. Haffner, '10

Maurice V. Brown, '11

Richard J. Fitzgerald, '12

Tufts College Dental School

416 Huntington Avenue

Boston, Mass.

The Dental School, formerly the Boston Dental College, became an incorporate part of Tufts College in 1899, under a special act of the legislature. It was incorporated under its former name in 1868, and is a firmly-established dental school of thirty years' standing, with a large and distinguished body of alumni. Its transfer to Tufts College was in consequence of the new anatomical laws of the State, and because it was felt by its former board of trustees that the advance in dental education rendered it desirable that the purely scientific part of its curriculum should be pursued in connection with a medical school.

The course of instruction in this institution embraces three academic years of eight months each. The studies of the first year, and a portion of those of the second year, are given in connection with those of the Medical School. Instruction is by means of lectures, demonstrations, laboratory work, and recitations, in anatomy, physiology, histology, chemistry, materia medica, pathology, therapeutics, bacteriology, principles of surgery, hygiene, theory and practice of dentistry, oral surgery, and in operative, clinical, and prosthetic dentistry, orthodontia, and dental technics.

The infirmary, under the personal direction of the Professor of Clinical Dentistry, assisted by a corps of demonstrators, is open daily through the year, except during a part of June, the whole of July and August, and a part of September. In the abundance and variety of its clinical material it furnishes an unsurpassed opportunity for the study of oral surgery and of dentistry in all its branches.

The laboratory of the prosthetic department is provided with perfect facilities for every variety of dental work. Every student is required before graduation to present satisfactory specimens of the different forms of mechanical work made by himself in the laboratory of the School, and under the supervision of the Professor of Prosthetic Dentistry.

The library of the School contains many medical and dental books and periodicals, and is being constantly increased, the aim being to add the new and important books in the various departments, as they are issued. The library is open for reference, and books are loaned to students. All the students are earnestly requested to make use of this privilege. Students also have access to the Boston Public Library, which contains one of the largest collections of scientific works in the United States.

Further opportunities for instruction are furnished by the valuable clinics and operations at the large hospitals of the city, which can be visited by the matriculates of this institution. Numerous operations upon the face and oral cavity are performed before students on public operating-days, and all connected with the School are urged to avail themselves of the facilities thus offered.

THE NEW BUILDING

The building is occupied by the combined Medical and Dental Schools of Tufts College, and was built in 1900, as it was found necessary to provide increased laboratory facilities, owing to the rapid growth of the Schools. Special attention is called to the new dental infirmary, which occupies the first floor of the dental wing. This room, 125x29 feet, is equipped and arranged in a manner similar to the operating room of a hospital; aseptic chairs, cuspidors, and brackets have been especially constructed for this School; steam sterilizers are provided for the disinfection of instruments; and it is believed that by these modern applications of asepsis to dentistry the new infirmary is among the most complete dental infirmaries in this country. The prosthetic department, which corresponds in

size to the infirmary, is equipped in the most approved modern fashion. For this department, electric power is supplied. The lower floor of the dental wing is devoted to operative technics (see page 280), and to the department of anesthesia and extraction. In the latter department, the most improved apparatus for the administration of nitrous-oxide is provided, and there is a recovery room under the charge of a professional nurse, who is in daily attendance. A surgeon connected with the Medical School is present on occasions when ether is administered.

Subjects of Instruction

ANATOMY

The course in anatomy is given throughout the first half of the first year. It consists of five lectures and two recitations weekly with the class, and of special demonstrations on the cadaver. In addition, during the first four weeks of the course six hours a week are devoted to section work in Osteology. Each student is required to dissect two parts, to the satisfaction of the Demonstrator of Anatomy, before taking the final examination. Record of attendance and of the quality of the work done in the dissecting room will be kept, and will largely determine the standing of the student in the class.

CHEMISTRY

The course in general chemistry consists of descriptive chemistry and qualitative analysis, with so much of theoretical chemistry as is necessary for a proper understanding of the subject.

The classification of the carbon compounds is also taken up at considerable length, and special reference is made to those which are of interest in the study of medicine. The instruction is by lectures, recitations, and practical work by the students in the laboratory. There are five lectures, two recitations, and six or more hours of laboratory work for each student, every week during the second semester. Much attention is given to qualitative analysis for the sake of the valuable training which it

imparts, and the knowledge of chemistry which is incidentally gained. The importance of this knowledge is evidenced by the fact that it is the only non-professional subject that is required in most dental schools. The aim is to impart such information in chemistry as is necessary to the intelligent dentist. At the same time any who wish to pursue the study further than is required of every graduate may do so by special arrangement.

During the second year this preliminary training in chemistry is followed by lectures, recitations, and laboratory work in dental chemistry. The metals, with their alloys and salts as used in dentistry, the bones and the teeth, the saliva, and the chemistry of the mouth are carefully studied. The high importance of the many applications of chemistry to the dental profession is fully recognized.

PHYSIOLOGY

The course in physiology is given throughout the latter half of the first year. It consists of five recitations, two lectures, and three conferences for every student each week, the preparation of a technical written paper, and extra demonstrations.

In the recitations, familiarity with the substance of an assigned text-book and with the Syllabus is required. The lectures set forth the principles of general physiology, and suggest some of its relations to the allied sciences, especially anatomy. The conferences give volunteers opportunity to become familiar with the literature on interesting physiological topics, which are then presented briefly in written reports and freely discussed by the class. Record both of the attendance and of the quality of the work done in the recitation-room will be kept, and, with the conference, will help to determine the standing of the student in the department. In addition, a three-hour written examination covering the entire scope of the year is held at the completion of the work, besides important subsidiary written examinations monthly.

By thus concentrating attention upon physiology during an adequate period, it is hoped that a thorough and indispensable grounding in the functions of the normal human organism will

be acquired. Advanced work in physiology will be provided for competent students, by special arrangement with the head of the department, the constant aim being to adapt the labors of each student both to his needs and to his capabilities.

HISTOLOGY

The subject of histology covers the first half of the first year. The work during the first half of the allotted time will be identical with that of the students in the Medical School. This part of the subject covers the study of the elementary tissues, treated comprehensively, beginning with their origin in the embryo. Dental histology will be taught during the second year. In this connection particular attention will be given to the study of the minute anatomy of the tooth. The development of the teeth will also receive careful treatment. A training which gives the student a knowledge of the origin and history of the dental germ lays a suitable foundation for the dentist.

The department is equipped with microscopes which, on the payment of a small fee, will be at the service of such as cannot furnish instruments of their own.

ELEMENTARY HYGIENE

During the first half of the Freshman year, elementary hygiene is taught, together with the benefits to be derived from pure and wholesome associations, with the object of developing high moral, mental, and physical qualities.

OPERATIVE DENTISTRY

In operative dentistry the instruction is both didactic and clinical. Lectures are given covering the whole field, familiarizing the student with all known methods, the conditions under which different filling materials are used, and the most approved manipulation of the same. Many lectures are followed by clinics before divisions of the classes, where attendance is obligatory. By this means every detail of the operation is impressed upon the mind of the student. Great emphasis is placed upon the preparation of cavities for filling. Instruction is

further given concerning the pathological conditions of the mouth and the treatment of the same, exposed pulps, inflamed pulps, dead pulps, abscesses, inflammation of the peridental membrane, and allied subjects. Special attention is given to the preparation of cavities for porcelain filling, and the manipulation of the same. Prophylaxis also is taught, under improved systematized methods.

OPERATIVE TECHNICS*

The technical laboratory is situated on the lower floor, and is exceptionally well lighted from three sides. It is equipped with benches having lock drawers for each student, and has power lathe and other implements for convenient use.

Instruction in this course will be by lectures, illustrated by models and drawings, and by practical work on the part of the student. The student's work will include the study of the forms of teeth, with carving in ivory; study of the position and form of pulp chambers and canals, with dissection of teeth; proper methods of treating and filling pulp canals, with operations on extracted teeth. Porcelain inlay work, with practical examples, also proper methods of forming cavities for filling, and the manipulation of all filling materials, will be included.

CLINICAL DENTISTRY

The method of instruction in clinical dentistry is by clinical lectures to the students of each class, accompanied by practical demonstration of various operations on the teeth and neighboring tissues.

Ample opportunity for work in practical operative dentistry is furnished in this department, and the student, by actual practice, receives training in the various dental operations, and in the diagnosis and treatment of diseased conditions of the mouth and teeth.

* NOTE.—The operations in the technical departments require a very large number of natural teeth, and a sufficient supply is sometimes difficult to get. It will therefore be to the interest of students if they will bring with them all the extracted teeth they can obtain.

PROSTHODONTIA

The instruction in prosthodontia consists of a graded course of didactic lectures to the entire class, illustrated by models and diagrams, on the nature, properties, and manipulation of the various materials used in making artificial dentures, crowns, and bridge-work, preparatory to, and in harmony with, the laboratory work in prosthetic dentistry. These lectures extend through the three years of the course.

PROSTHETIC DENTISTRY

Particular attention is given to practical manipulation of vulcanite, celluloid, aluminum, and cast metal, for dentures; to gold-plate work, to preparation of plate for continuous gum and the application of continuous gum to crown and bridge work, as well as the construction of gold crowns and bridges. The natural form, color, and arrangement of the teeth, together with the entire range of procedure, from taking the impression to the completion of the case and its proper adjustment in the mouth, are thoroughly demonstrated.

ORTHODONTIA

The instruction in the department of orthodontia consists of illustrated lectures dealing with normal development of both temporary and permanent teeth and adjacent tissues, compared with mal-development; also the etiology and treatment of the various deformities of the mouth and teeth.

In addition, the student will be taught the technique and management of practical cases, under the direction of the instructors.

PHARMACOLOGY

Instruction in pharmacology consists of lectures, recitations, and laboratory exercises, twelve hours a week throughout the first half-year. Especial attention is given to the physiological action of drugs in its relation to their therapeutical application, and to the relation always existing between therapeutics and physiological and pathological laboratory work. The laboratory course is designed to familiarize the student with all medic-

inal preparations and processes, and consists of exercises in which the class in sections is led to this result practically.

Prescription writing and the metric system will receive careful attention. Such of the recent additions to *materia medica* as are deemed worthy will be properly considered.

PATHOLOGY AND BACTERIOLOGY

The subjects of pathology and bacteriology will be considered together. This method permits showing the relation of bacteria to the disease processes which they produce. The work will consist of lectures, required laboratory work, and demonstrations. The student is made acquainted with the bacteria of the mouth, and is required to cultivate and study the important organisms. He is expected to carry out experiments to demonstrate the production of artificial caries. The subject of general pathology will be thoroughly covered. The special pathology of the mouth, and of the respiratory and intestinal tracts, will be given particular attention. Inflammation, especially the infectious types, among which are the lesions produced by the pyogenic bacteria, will be carefully considered. The process of repair in soft tissues and bone, and tumors of the mouth and face, are studied from sections of human and experimental lesions, and illustrated by demonstrations of gross specimens. In connection with the study of infectious processes, the specific bacteria will be cultivated and studied. Diseases of the circulatory system are illustrated by lectures and gross demonstrations. The methods of sterilization and their relative efficacy are practically studied, and tests are made of a large series of antiseptic and disinfectant substances.

The pathological and bacteriological department of the School occupies over four thousand square feet of floor space, with a frontage of one hundred and sixty feet. It is excellently lighted. The laboratory furnishes accommodation for one hundred students, and is supplied with all the materials necessary for thorough work.

THEORY AND PRACTICE OF DENTISTRY

The instruction in the theory and practice of dentistry is designed to teach the most advanced scientific discoveries in relation to this art.

It will include such subjects as the action of mouth bacteria, diseases dependent upon dental lesions, dental prophylaxis, oral hygiene, and the ethics of dental practice. The course will be arranged to harmonize with and to supplement the work of the clinical department.

THEORY AND PRACTICE OF MEDICINE

The work in the theory and practice of medicine consists of a series of lectures given to the dental students by members of the Faculty and Board of Instruction of the Medical School. It is intended to include such subjects as general infectious and contagious diseases; syphilis; stomatitis and tonsillitis; diseases of the heart, kidneys, and skin; neuralgia and neurasthenia; disorders of the alimentary tract; pregnancy; tuberculosis. Lectures upon legal medicine and other subjects will be given. It is believed that a course of this description will be of the utmost practical value to dental students, as it will make them acquainted with the nature of a large class of diseases and conditions which they are liable to meet in the practice of dentistry.

HYGIENE AND SANITATION

The Faculty, realizing that the conditions under which the dentist lives and works may be conducive or detrimental to his well-being, has established a course in hygiene and sanitation for students of the third-year class.

The conservation of vital forces that protect from disease; the knowledge of what constitutes pure air, good water, wholesome food, abundant exercise, ample recreation, and how they may be obtained; the vital cause of transmissible diseases, how transmitted and through what portals entrance to the human body is gained, are subjects with which the dentist should be familiar, for his occupation often necessitates close relations with patients suffering from diseases acquired only through

transmission from one person to another. If he is possessed of this knowledge, together with the ability to make a probable diagnosis from plainly manifested symptoms, he may preserve his health, and by simple precautions escape the preventable diseases, especially of the respiratory and alimentary tracts.

SURGERY

The course in surgery consists of a systematic series of lectures covering its principles. These lectures explain the fundamental facts which should be thoroughly understood by all students who propose to treat any portion of the human body. The lectures are not limited to surgery of the mouth, although especial attention is given to this part of the subject, but are intended to give the dental student a sound knowledge of surgery in general.

Asepsis and anesthesia are minutely discussed, and practically demonstrated in the infirmary, in conjunction with the Professor in Operative Technics and Anesthesia. The student is carefully instructed in the administration of ether and of nitrous-oxide gas. In addition to the daily instruction, one morning in each week is devoted wholly to this work, the class being divided into sections. At this weekly demonstration, cases are presented exemplifying the choice of an anesthetic in the particular case. The danger signals of anesthesia are considered, and the proper treatment explained. Local anesthesia receives careful attention, and its limitations are pointed out.

The technic of aseptic and antiseptic methods in dental work is thoroughly explained, and shown in connection with the demonstrations of anesthetics.

ANESTHESIA AND EXTRACTION

The extracting room, a well-lighted apartment, is supplied with all needful instruments and appliances for extracting teeth and for the performance of the simpler operations in surgery. Ample waiting rooms are adjacent, and also rooms for the care of patients after anesthesia. Administrations of nitrous-oxide

gas and ether are made daily. The room is at all times under the personal supervision of the Instructor in Anesthesia.

CLINICAL CONFERENCE

Each clinical conference consists in the reading of an essay upon some practical subject,—the written report of an actual case by a student of the Senior class,—at a meeting of the class presided over by a member of the Faculty. The report is intended to bring out all the features of the case with regard to such topics as its etiology, pathology, and treatment. When possible, the patient will be presented to the class for examination. The case is fully discussed by the members of the class and by the professor in charge.

Requirements

FOR ADMISSION

Candidates for admission to this School, except as hereafter stated, must pass a written entrance examination in the following studies: English, Algebra, Plane Geometry, Physics, and Latin, and one subject to be chosen from the following: American History, Biology, Chemistry, French, or German.

(a) English: a composition of two hundred words upon some subject of general interest; the same to be criticised in relation to thought, construction, punctuation, spelling, and handwriting. The subject for this examination in 1909 will be chosen from the following:—(1) Shakespeare's Merchant of Venice; (2) Thackeray's Henry Esmond; (3) Burke's Speech on Conciliation with America; (4) Scott's Ivanhoe. Every candidate is expected to have read intelligently all the books prescribed.

(b) Algebra: the fundamental operations, factors, fractions, simple equations, simultaneous equations of the first degree, involution and evolution, exponents and quadratic equations. Texts similar to those of Wells or Wentworth are suggested for study.

(c) Plane Geometry.

(d) Physics: an examination suited to those who have studied such text-books as Gage's Elements of Physics, or Carhart's and Chester's Elements of Physics.

(e) Latin: a sight translation of easy Latin, as, for example, simple passages from Cæsar's Gallic War; also the translation into Latin of easy English sentences based on the first fifteen chapters of Book I of the Gallic War.

(f) In addition to the above, the candidate must present himself for examination in *one* of the following subjects:—

1. American History: The text-book suggested is McLaughlin's History of the American Nation.

2. Biology: The text-books suggested are Colton, Zoölogy, Descriptive and Practical; Jordan, Kellogg and Heath, Animals; Kingsley, Elements of Comparative Zoölogy; Needham, Lessons in Zoölogy.

3. Chemistry: The text-book suggested is Newell's.

4. German: Kayser and Montesu's Brief German Course, or Edgren and Fossler, or the "first part" of the Joynes-Meissner Grammar, together with some seventy-five pages of easy German from such texts as are commonly read in the first year of the preparatory school, will represent the amount of preparation expected.

5. French: Grandgent's Short French Grammar, or the "first part" of any one of the commonly used grammars, together with about one hundred pages of easy French (as above).

In modern languages the equivalent of one year's study, with four periods a week, is required.

Students who have failed in not more than three of these subjects may be admitted, subject to condition.

Students who have failed to remove their entrance conditions before the beginning of the second year will be catalogued with the first-year class.

The entrance examinations will be held on Monday, June 6, and on Monday, Sept. 19, 1910, at 10 A.M. They are con-

ducted at the Dental School building, under the supervision of an officer of the College of Letters.

EXCEPTIONS.—Graduates of approved colleges or universities, graduates of approved high schools, and students holding Regents' certificates of the State of New York are admitted without examination.

ADVANCED STANDING

Students who have taken courses in other accredited dental schools are admitted to advanced classes upon presenting satisfactory evidence that they have passed the examinations required for the class they desire to enter.

Students presenting evidence of a course equivalent to the course in general chemistry given in the first year are allowed to anticipate the subject upon passing the fall examinations.

PROMOTION

Students who have passed a majority of the examinations of the first-year class, and all entrance conditions, may be promoted to the second-year class. Students who have passed all the first-year and a majority of the second-year examinations may be admitted to the third-year class.

GRADUATION

Candidates for the degree of Doctor of Dental Medicine must have fulfilled the following minimum requirements:—

1. They must present a certificate that they are twenty-one years of age and of good moral character.
2. They must have attended at least three full courses of lectures in some accredited dental school, the last of which shall have been at this School, and no two courses in the same twelve months.
3. They must have passed all the examinations required, and have satisfied the professors of clinical and prosthetic dentistry of their ability to meet satisfactorily the requirements of the profession.
4. They must have satisfactorily dissected under the direction of a demonstrator of anatomy.
5. They must have paid all fees.

CHANGE OF REQUIREMENTS

The Faculty reserve the right to change all requirements without further notice.

HONORS

Students who have attended three full courses of lectures at this school and have attained an average of ninety per cent. in their examinations shall be eligible to "*summa cum laude*"; and students who have attained an average of eighty per cent. shall be eligible to "*cum laude*" in connection with the degree received.

STANDING AND CERTIFICATES

At the end of the session a statement of his standing for the year is sent by mail to each student. These certificates must be preserved for future reference. No marks will be sent or credit given to any student who is in arrears with the Bursar.

EXAMINATIONS

There are two periods of examination held each year in the school building. Examinations are in writing, and are held at the close of the course in the spring, and previous to the opening of the regular course of lectures in the fall.

The spring examinations are for :—

- (a) Students commencing the study of dentistry. (See page 285.)
- (b) Promotion.
- (c) Graduation.

The fall examinations are for :—

- (a) Students commencing the study of dentistry. (See page 285.)
- (b) Removal of conditions in :
 - 1. Previous entrance examinations. (See page 285.)
 - 2. The first-year course.
 - 3. The second-year course.

Students intending to take the fall examinations (other than entrance) *are required* to notify the Secretary on or before September 3, 1910.

The fall examinations for the removal of conditions (other than entrance) will commence Monday, September 12, 1910, at 10 A.M. A detailed list of the subjects in which examinations are given, with the day and hour of each, will be mailed after September 1, 1910, on application.

REGISTRATION AT EXAMINATIONS

In each examination (except those for entrance) students who fail to sign the registration blank provided for the purpose shall receive no credit for that examination.

The examinations in course are as follows :

EXAMINATIONS

First Year. *Finals* in Anatomy, Physiology, General Chemistry, Histology, Operative Technics, and Elementary Hygiene.

Progress in Prosthetic Dentistry and in Prosthodontia.

Second Year. *Finals* in Materia Medica, Pharmacology, Dental Chemistry, Pathology, Bacteriology, and Dental Histology.

Progress in Operative Dentistry, Clinical Dentistry, Prosthetic Dentistry, and Prosthodontia.

Third Year. *Finals* in Oral Surgery, Orthodontia, Theory and Practice, Hygiene, Operative Dentistry, Clinical Dentistry, Prosthetic Dentistry, and Prosthodontia.

TEXT BOOKS

The first book mentioned is preferred as a text-book, the others being recommended as collateral reading.

Anatomy.—Gray, Weisse, Quain, Morris, Cunningham, Solatta, McMurrich.

Physiology.—Syllabus, Dearborn's Text-Book of Physiology, Howell, Landois, Verworn, Schäfer, Morat, Hutchinson.

Chemistry.—Simons's Manual, Witthaus, Storer and Lindsay, A. H. Elliott's Qualitative Analysis, Mitchell's Dental Chemistry.

Dental Histology and Microscopy.—Syllabus, Stohr's Histology, Tome's Dental Anatomy (latest edition).

Pathology.—Syllabus, Miller's Micro-Organisms of the Human Mouth, Burchard's Dental Pathology.

Hygiene.—Egbert's Hygiene and Sanitation.

Materia Medica and Therapeutics.—Hare, U. S. Dispensatory, Gerrish's Prescription Writing.

Orthodontia.—Malocclusion of the Teeth, Angle (7th edition); Orthodontia, Guildford (4th edition); Internal Anatomy of the Face, Cryer.

Practice of Surgery.—American Text Book, Marshall's Injuries and Surgical Diseases of the Jaws, International Text-book of Surgery.

Dental Science and Operative Dentistry.—Kirk's Operative Dentistry, Garretson's Oral Surgery, Black's Dental Anatomy, Weeks's Operative Technics, American System of Dentistry, Harris's Practice of Dental Surgery, Taft's Operative Dentistry.

Prosthetic Dentistry.—Essig's American Text-book of Prosthetic Dentistry, Richardson's Mechanical Dentistry, Evans's Crown and Bridge Work, Gilbert's Vulcanite and Celluloid.

Bacteriology.—Abbott, Woodhead, Sternberg.

Medical Dictionary.—Dunglison.

FEES AND EXPENSES

A matriculation fee of *five dollars* is payable each year.

A charge of *one hundred and fifty dollars* for tuition is payable in advance.

If desired, the tuition may be paid in instalments, in which case an additional charge of five dollars is made, and the fees are then paid as follows:—

First payment:—Five dollars for matriculation fee and seventy-five dollars on account of the tuition, a total of *eighty dollars*, payable at the beginning of the first semester.

Second payment:—Seventy-five dollars, the balance of the tuition, and five dollars, the additional charge, a total of *eighty dollars*, payable at the beginning of the second semester, or before February 1.

There is no charge for anatomical material or for laboratory supplies.

No student will be admitted to the exercises of the first half-year who has not paid his matriculation fee and at least one-half the tuition, and no student will be admitted to the exercises of the second half-year who has not paid his fees in full.

Students leaving the school have no claim for tuition paid.

Students who have failed twice in a subject are required to pay a fee of five dollars for each subsequent examination in that subject.

POST-GRADUATE FEES

Post-graduate fee for graduates of other schools . . .	\$150.00
Single course	50.00

Post-graduate fee for graduates of this school	\$60.00
Single course	30.00
Anatomical material	at cost

The Bursar of the College will be at the School, Monday, Wednesday, and Friday, 2.30 to 5.00 P.M., from October 1 to June 1.

There are no scholarships connected with the School.

The expenses of living in Boston need not exceed those in small cities and villages. Good board, including room, fire, and light, can be obtained in the vicinity of the school at from \$5.50 to \$7 a week. Students will not be allowed to occupy rooms disapproved by the Faculty.

OUTDOOR DEPARTMENT

Clinical Dentistry

For many years it has been the custom of the authorities of this School to furnish to certain charitable and penal institutions qualified dentists for the purpose of alleviating cases of actual suffering. Applications for an extension of this service should be made to E. W. Branigan, A.M., D.D.S., Department of Clinical Dentistry, Tufts College Dental School, Boston, Mass.

Prosthetic Dentistry

In a manner similar to the above it has been the custom of the authorities of this School to furnish to the inmates of certain institutions for the aged, at the nominal charge of the cost of materials, artificial teeth and appliances. Institutions desiring to avail themselves of the privilege should apply to F. M. Hemenway, D.M.D., Department of Prosthetic Dentistry, Tufts College Dental School, Boston, Mass.

STATE BOARD EXAMINATION

Students shall not take a State Board Examination in Dentistry previous to the time of final examinations of the third year, without a written permission from the Secretary of the Dental School.

General Information

The Tufts College Dental School is a member of the National Association of Dental Faculties, and conforms to its rules, as well as to those of the National Association of Dental Examiners.

All students must be registered and in attendance within ten days after the commencement of lectures.

LIBRARIES

The students of this school have free access to the Dental School Library, to the Library of Tufts College, to the Boston Public Library, and to the Boston Medical Library.

The library at the Dental School is open daily from 9.00 a. m. to 5 p. m., except Sundays and holidays. This library is intended to provide *text books for reference*, and the latest editions of all text books used in the school are furnished. These cannot be taken from the Reading Room. In addition, the library contains a large number of reference books in general medicine and general surgery, and in all special branches of each. These works are loaned to the student free of charge, and can be taken out. Complete files of various medical journals provide a valuable addition to the school library.

The Boston Medical Library, which is situated near the School, has one of the largest and most complete collections of medical works in existence. It contains not only bound volumes of every important book in medical literature, but also a very extensive collection of monographs and pamphlets on special subjects. All the leading medical journals are on file for inspection. The Boston Medical Library extends its privileges, under certain conditions, free of charge to students of this School. Its rooms are open daily from Oct. 1 to May 31, from 9.30 a. m. to 10.00 p. m., except Sundays and holidays. The hours on Saturday are from 9.30 a. m. to 6 p. m.

SESSIONS OF THE SCHOOL

The annual course of lectures begins on the last Wednesday

in September of each year, and continues until the last Wednesday in May. The annual course of lectures for 1910-11 will commence Wednesday, September 28, 1910 at 3 p. m.

VACATIONS

There are no exercises at the School during three days at Thanksgiving, a week at Christmas, and the week beginning April 3, nor upon Washington's Birthday, Patriots' Day, and Memorial Day.

APPLICATIONS

Students who intend to enter the School for the first time must obtain from the Secretary an application blank, which they are required to fill out and return to him. Application blanks will be mailed upon request.

REGISTRATION

Registration is required of all students, each year. *Registration blanks for the session 1910-11 must be filled out and deposited with the Secretary on or before October 8, 1910.* Registration is conducted at the school building only.

ANNOUNCEMENT

Requests for the annual catalogue, and all other communications relating to the business of the School, should be addressed to the Secretary, FREDERIC M. BRIGGS, M.D., Tufts College Dental School, Boston, Mass.

Summer Courses

The following subjects are offered during the summer months : —

PHYSIOLOGY

A course in Physiology will be given during the months of June and July by, or under the direction of, the Professor of Physiology. For particulars of the course application should be made to Dr. Dearborn.

HISTOLOGY

A summer course will be given under the direction of the Professor of Histology. Particulars as to the scope of this work, and the fee, may be learned upon application to Dr. Bates.

THE
BROMFIELD-PEARSON
SCHOOL

The Bromfield-Pearson School

BOARD OF INSTRUCTION

FREDERICK W. HAMILTON, A.M., D.D., LL.D., PRESIDENT

GARDNER C. ANTHONY, A.M., Sc.D., DEAN
Professor of Technical Drawing

SAMUEL C. EARLE, A.M.
Professor of English

CHARLES E. STEWART, S.B.
Assistant Professor of Mechanic Arts

GEORGE F. ASHLEY
Assistant Professor of Drawing

PHILIP M. HAYDEN, A.B.
Instructor in French

EDWARD H. CROLL, Ph.B.
Instructor in Mathematics.

The Bromfield-Pearson School

The Bromfield-Pearson School is intended to meet the wants of young men whose preparation for an Engineering course may be partially deficient in one or more of the required branches, but whose practice and experience in the applied part of Engineering may qualify them to pursue college work while making up these deficiencies. By this means an engineering education is made possible to those who may have been deprived of the opportunities for obtaining the necessary preparation, or who may have allowed considerable time to elapse between the high school and the college course. A mature mind, industrious habits, and a keen appreciation of the value of the higher education in Engineering are essential qualifications for engaging in this work.

As it is the intention of the Trustees to limit the membership to those earnest and somewhat mature students who cannot afford the time ordinarily required in the fitting school, candidates will not be received from manual training and high schools.

ADMISSION

Students intending to join the School must obtain from the Dean an application blank, which they are required to fill out and return. On receipt of this statement they will be informed as to the conditions of entrance and the program of studies which it will be possible to pursue.

REGULATIONS

Students are subject to all the rules governing members of the College.

All preparatory work must be completed during the year, as no student will be admitted to the School for more than one year.

Students admitted to college classes will be required to obtain a somewhat higher per cent. than the minimum requirement for engineering students.

On the satisfactory completion of the preparatory work students will be given a certificate of admission to the College. They will also receive full credit for all college work done toward a degree.

The President and the Dean have final authority concerning admission, promotion, and discipline.

EXPENSES

The tuition fee is one hundred and fifty dollars a year, payable as follows: seventy-five dollars on or before October 1, and the remainder on or before March 1.

A registration fee of five dollars is charged each entering student, and is payable at the time of registration.

No part of the tuition fee will be refunded to pupils who for any reason withdraw from the school before the close of the term for which the fee is paid.

The cost of table board is from \$4.00 to \$5.00 per week. Furnished rooms may be had at \$1.50 or \$2.00 a week. Other expenses vary with the economy of each student. Students living in the College dormitories furnish their own rooms.

The following estimates represent the fixed annual expenses:—

Tuition	\$150.00	\$150.00
Half-room rent	20.00	91.00
Board, \$4.00 to \$5.00 a week (36 weeks) . .	144.00	180.00
Physical training		10.00
Books, instruments, and supplies	15.00	25.00
Total	\$329.00	\$456.00
Registration-fee, for entering students		\$5.00

For other information address GARDNER C. ANTHONY, Dean of the Bromfield-Pearson School, Tufts College, Mass.

The Harpswell Laboratory

INSTRUCTORS

J. STERLING KINGSLEY, Sc.D.

Director, and Professor of Biology

HERBERT V. NEAL

Professor of Biology, Knox College, Galesburg, Ill.

FRED D. LAMBERT, Ph.D.

Assistant, and Instructor in Natural History

In 1898 summer instruction in biology was given at South Harpswell, Maine, and in 1901 the college erected a small laboratory at that point, enlarging it in 1902. The location is admirably adapted for biological research, since the fauna of Casco Bay is extremely rich. The laboratory is equipped with boats, dredges, glassware, apparatus, and reagents, for study on the lines of anatomy and embryology. There is also a small library of the most important works.

South Harpswell is two hours by steamer from Portland. It is at the extremity of a narrow peninsula ten miles in length, and has a cool climate. There are several hotels and boarding houses, where board and rooms may be had at five dollars a week and upward.

The Harpswell Laboratory will be open during the summer of 1910, for research work only, under the direction of DR. NEAL.

For circulars and other information concerning the Harpswell Laboratory, inquiries should be directed to PROFESSOR H. V. NEAL, Galesburg, Ill.

DEGREES AND HONORS

1908-1909

Fifty-Third Annual Commencement

June 16, 1909

HONORARY DEGREES CONFERRED

Masters of Arts

Charles Neal Barney

Mabel Irene Emerson

Harry Fay Fister

DEGREES CONFERRED IN COURSE

Bachelors of Arts

Ethel May Aiken (<i>cum laude</i>)	Gertrude Frothingham Holland
Mary Florentia Bogue (<i>magna cum laude</i>)	Ernest Rogers Humphries (extra ordinem as of the class of 1908)
John Grace Boss	Louis Bradford King
Reba May Bush (<i>summa cum laude</i>)	Ned Conrad Loud (<i>summa cum laude</i>)
Ruth Gertrude Butters	Maud Myrtle Lunt
Harry Garfield Chapin (<i>cum laude</i>)	Annie Rebecca McCoy
Harrison Sumner Coday	Ray Thomas McDonald
Ethel May Cole	Helen Marie Miller (<i>magna cum laude</i>)
Irving Page Colman	Alice Matilda Rich
Leroy James Cook	Henry W Roberts
Sumner Eastman Darling, Jr.	Harry William Sheehan
Lewis Doane	Augusta Reddington Sweeney
Lois Frances Endicott	Dora Hudson Thayer
Roger Frederick Etz	Arthur Henry Ward
Ray Dwinell Farnsworth	Forrester Blanchard Washington
Gladys Alpha Graves	Abby Ellen Wellman
Genevieve Marie Haven	Henry Cass Whippen
Norbert Wiener (<i>cum laude</i>)	

Bachelor of Philosophy

George Byron Heath (extra ordinem as of the class of 1899)

Bachelor of Science in Chemistry

Carleton Parker Jones

Bachelor of Science in General Science

Marguerite Sanborn

Bachelors of Science, Medical Preparatory Course

Will Francis Hayes (extra ordinem as of the class of 1906)

Herbert Handy Howard

Bachelor of Mechanic Arts

Herbert Collamore Foss (extra ordinem as of the class of 1894)

Bachelors of Science in Civil Engineering

Ralph Edward Case	George Everett McNayr
Howard Everett Cousins	Ernest Dunning Read
Lester Fisher Ellis	Alfred Barnard Root, Jr.
Charles Howard Getchell	Winthrop Sears
Carl Perry Hubbard	John Alfred Tuck (<i>cum laude</i>)
David Bradford Knowlton	Homer Root Turner
William Whipple Michael	Robert Lee Wood

Bachelors of Science in Electrical Engineering

Ralph Edgar Gould	Percy Andrew Mooar
William Miller Hall (<i>cum laude</i>)	Ernest Raymond Moore
Laurence Merrill Hemman	Charles Andrew Robinson (<i>magna cum laude</i>)
William Ellsworth Hooper	John Phineas Starrett
Thomas Joseph McCarthy, Jr.	Henry Lorenzo Vose

Bachelors of Science in Mechanical Engineering

Frank Binns	Edwin Morey
Walter Leonard Stevens, Jr.	

Bachelor of Science in Chemical Engineering

Arthur Griggs Kent

Bachelor of Divinity

Nelson Lyman Lobdell

Doctors of Medicine

Elizabeth Morrison Abbe	Walter Livingstone Conwell, Jr.
James Douglas Alleyne (extra ordinem as of the class of 1908)	Domizio Augustine Costa (extra ordinem as of the class of 1908)
David George Azadian	James Francis Coupal, B.S.
William Bailey	Frank Wallis Crawford (<i>cum laude</i>)
Chester Stoyke Baker (<i>cum laude</i>)	Walter Hiram Crosby (extra ordinem as of the class of 1908)
William Herbert Blanchard	Thomas Roche Donovan
Winthrop Shirley Blanchard	Jessie Anderson Dow
Arthur Henry Boyden (<i>cum laude</i>)	Joseph Henry Fay (extra ordinem as of the class of 1908)
William Francis Brady	William Thomas Frawley
Arthur Linwood Brown (extra ordinem as of the class of 1908)	Edward Boston Frisbee
Thomas Francis Capeles	Herbert Franklin Gerald (<i>cum laude</i>)
Walter Emery Caswell (<i>cum laude</i>)	Charles Francis Gormly
Harrie Franklin Cleaves (extra ordinem as of the class of 1908)	

Jay Perry Graham	Patrick Henry O'Connor (<i>cum laude</i>)
Will Francis Hayes, B.S.	Edward James O'Rourke
John Franklin Holmes	John Laurence O'Toole (extra ordinem as of the class of 1908)
James Albert Honeij (extra ordinem as of the class of 1908)	Mortimer Harwood Paine
Leon Webster Jessaman	George Emory Pariseau (<i>cum laude</i>)
Catherine Rose Kelley (<i>cum laude</i>)	Harold Francis Parker
Arthur Wight King (extra ordinem as of the class of 1908)	Charles Eugene Perry
George Clifford King	Philip Wilfred Place
Edward Allen Knowlton, B.S.	Arthur Scott Reebe (<i>cum laude</i>)
Mette Marie Knudson	Herbert Augustus Rice (extra ordinem as of the class of 1908)
Henry Orlando Lacey (extra ordinem as of the class of 1908)	Carl Webber Rosenbloom
Charles Bernard Lewis	John Edmunds Runnells
Coval Henry Liverpool (extra ordinem as of the class of 1908)	Helen Christine Scorgie, A.B.
Thomas Franklin Mayo	George Henry Scott
John Edward McCartin (extra ordinem as of the class of 1908)	Edith Rogers Spaulding
Alexander John McRae (<i>cum laude</i>)	John Doliver Spaulding
George Fremont Miller (extra ordinem as of the class of 1908)	Andrew Joseph Sullivan
Koki Minagawa (extra ordinem as of the class of 1908)	Patrick Joseph Sullivan
Howard Dykeman Mitchell	Fred Bowers Taylor
Edward James Monahan	George Pierce Towle
Francis Vincent Moore	William Kenneth Turner
Benjamin Frank Murray	Gordon Brooks Underwood
Alfred Winthrop Myrick	Leslie Thorning Vinal, A.B.
James Zuslofsky Naurison (<i>cum laude</i>)	Harold Lowe Wallace (extra ordinem as of the class of 1908)
	Clement Plummer Westcott
	Edmund Vincent Whelan
	George Arthur White
	John Robert White

Doctors of Dental Medicine

Alfred Tevis Blowe	Earl Alvarez Carvill (extra ordinem as of the class of 1908)
William Henry Boland (extra ordinem as of the class of 1908)	Earl Erskine Chadsey
Nathaniel Woodbury Bragdon	Nathan Nason Cohen
Walter Clayton Brayshaw	Walter Edward Copithorn
Walter Emerson Briggs	James Elliott Cox
Charles Joseph Burns	Harold Duncan Darling (extra ordinem as of the class of 1908)
LeRoy Eli Burr	John Edward Dexter (extra ordinem as of the class of 1908)
Matthew Francis Carney	

Andrew Francis Donlan	Waldo Hill Murray
Edward John Donovan	Harry Winfield Perkins
James J Duddy	Leslie Duane Priest (extra ordinem as of the class of 1908)
Haller Boynton Eames	Joseph Herbert Howard Rice (extra ordinem as of the class of 1908)
George Washington Ellison, Jr.	Alfred Gordon Richburg
Grace Chandler Emery	Catherine Agnes Rowe
Joseph Nicholas Finney	Ralph William Sawyer
Cormick Vincent Gallagher (extra ordinem as of the class of 1908)	Daniel Lawrence Saxton (extra or- dinem as of the class of 1908)
Ernest Willoughby Gates	Roy Churchill Skinner
Joseph Cornelius Gethro	Harold Earle Smith
Charles Philip Haven	Norman Spencer (extra ordinem as of the class of 1908)
Anna Veronica Hughes	Carl Wyman Stegmaier
John Eugene Keefe	Hyman Bernard Swig
Herman Leroy Keene	John Francis Turner
Charles Arthur LeClair	Schuyler Richard Waller
Joseph Levy	Julius Samuel Weinstein
Rupert Scott Lovejoy	Leon Jesse Wells
Frederic Archibald MacKinnon	Frederick Blair Wheaton
Joseph Aloysius Mahoney	Charles Butler Wry
Edmund James McNally	Leonard Deleston Young
James Johnston McVey	
Harold Eaton Mongovan	
James Francis Murphy	

Doctors of Dental Medicine in Post-Graduate Course

George Cook Ainsworth	Agnes Gertrude Kelley
John Winslow Bailey	Arthur Lincoln Miles
Alpheus Roberts Brown	Frederick Albert Sawyer
Thomas William Clements	Louis Whitney Scott
Harry Edward Cutter	George Brenton Squires
George William Day	Ross Vroom
William Price DeWitt	Sumner Permenter Willard
James William Devlin	Robert William Young

Masters of Arts

Ray William Clough, A.B., '08 (Chemistry)	
Thesis: The Utilization of a Waste Product	
Alexander Dillingham, A.B., '07 (Mathematics)	
Thesis: Polar Curve Tracing	
Frida Emilie Ungar, A.B., '07 (Political Science)	
Thesis: A Study of Absence in Industry in Relation to Benefit Associations	

Commencement Parts

- John Alfred Tuck, Cand. B.S.: "The Ideals of an Engineering Education"
 Chester Stoyke Baker, Cand. M.D.: "The Healing Power of Suggestion"
 Reba May Bush, Cand. A.B.: "Music in America from the Standpoint of Foreign Influence"
 Walter Emerson Briggs, Cand. D.M.D.: "Dental Hygiene"
 Ned Conrad Loud, Cand. A.B.: "The Undercurrents of History"

Honors

- Mary Florentia Bogue (English)
 Reba May Bush (French)
 Ned Conrad Loud (History and Public Law)
 Helen Marie Miller (Greek)
 Charles Andrew Robinson (Electricity)

Honorable Mention

- Ethel May Aiken (History and Public Law)
 Reba May Bush (Music)
 Harry Garfield Chapin (Political Science)
 William Miller Hall (Electricity)
 Ned Conrad Loud (Philosophy)
 John Alfred Tuck (Civil Engineering)
 Norbert Wiener (Mathematics)

Awards of Prizes, 1908-1909

Goddard Prize in Greek

GLADYS MARION ADAMS

Goddard Prize in Mathematics

ALBERT WILLIAM DAVIS

Scholarship of the Class of 1882

EVERETT WESLEY IRELAND

Scholarship of the Class of 1898

SIGNA ELEANOR BYORKMAN

Greenwood Prize Scholarship in Oratory

EDITH MARION STURTEVANT

Moses True Brown Scholarship

FORRESTER BLANCHARD WASHINGTON

Alpha Omicron Pi Scholarship

GLADYS MARION ADAMS

Rhetorical Prizes

First Prize

GLADYS ALPHA GRAVES

Second Prize

FORRESTER BLANCHARD WASHINGTON

Third Prize

ERNEST SIGFRED SWENSON

REGISTER OF STUDENTS

Graduate School

Resident Students

AVERILL, HARVEY EASTMAN	Barre, Vt.	Curtis, 6
<i>A.B., 1908 Second Year History and Public Law</i>		
BOGUE, MARY FLORENTIA	Tufts College	29 Capen St.
<i>A.B., 1909 First Year Ancient Languages</i>		
COOK, LEROY JAMES	Winthrop	A T Ω House
<i>A.B., 1909 First Year Modern Languages</i>		
CROLL, EDWARD HENRY	Buffalo, N. Y.	93 Newbury St., Boston
<i>Ph.B. (Yale), 1909 First Year Engineering</i>		
LAMBERT, MARY INGALLS	Tufts College	16 Dearborn Rd.
<i>A.B., 1909 Third Year English</i>		
TENNEY, RUTH	W. Somerville	11 Whitfield Rd.
<i>A.B., 1904, A.M., 1906 Second Year History and Public Law</i>		
VOGT, DAYTON GEORGE	Buffalo, N. Y.	Paige, 22
<i>A.B., 1908 First Year Economics</i>		

Non-Resident Students

CHADWICK, HENRI FRANCIS	Wilkinsburg, Pa.	746 Penn. Ave.
<i>B.S., 1900 First Year Engineering</i>		
CLARK, CHARLES BROOKS	West Point, N. Y.	U. S. Military Academy
<i>B.S., 1897 Second Year Engineering</i>		
PEARSON, GEORGE EDWARD	W. Somerville	University of Maine, Orono, Me.
<i>A.B., 1904, A.M., 1905 Fifth Year History and Public Law</i>		

Courses in Arts and Sciences

[In the following list the course pursued by each student is indicated by the *Italic* letters immediately following the name. The signs used are as follows: courses leading to the degree of A.B., *ab*; to the degree of S.B., — in Civil Engineering, *ce*; in Electrical Engineering, *ee*; in Mechanical Engineering, *me*; in Chemical Engineering, *che*; and in the first year of the Engineering Courses, before the differentiation of studies, *e*; to the degree of S.B., through the Science Courses, — in General Science, *sc*; in Biology, *bi*; in Chemistry, *ch*; and the Medical Preparatory, *mp*.

The third column records the home address. The fourth column gives the address at Tufts College, unless the street is printed in *Italics*, in which latter case it is a part of the home address.]

Senior Class

Adams, Gladys Marion	<i>ab</i>	<i>Tufts College</i>	<i>36 Emery St.</i>
Adams, John Alden	<i>ee</i>	<i>Hartford, Conn.</i>	Θ Δ X House
Allen, Richard Congdon	<i>ee</i>	<i>Quincy</i>	Δ T House
Baker, Crosby Fred	<i>ch</i>	<i>Pemaquid Harbor, Me.</i>	West, 12
Bohlin, Oscar Clemens	<i>ce</i>	<i>Tufts College</i>	<i>15 Bellevue St.</i>
Burgess, Harold Thomas	<i>ce</i>	<i>Meriden, Conn.</i>	A T Ω House
Burnham, Helen Stanley	<i>ab</i>	<i>W. Newbury</i>	Metcalf, 11
Burt, Harry Arthur	<i>ab</i>	<i>Taunton</i>	Dean, 1
Byorkman, Signa Eleanor	<i>ab</i>	<i>Hartford, Conn.</i>	Metcalf, 8
Chandler, Elsie May	<i>ab</i>	<i>Peabody</i>	Metcalf, 9
Chase, Leo Waldemar	<i>ee</i>	<i>Lowell</i>	Paige, 32
Conn, Chester Ingalls	<i>ce</i>	<i>Woburn</i>	<i>635 Main St.</i>
Currie, Annie Morinda	<i>ab</i>	<i>W. Somerville</i>	<i>15 Campbell Pk.</i>
Curtis, Leslie Forrest	<i>ee</i>	<i>Assinippi</i>	Z Ψ House
Cushing, Charles Dunn	<i>ee</i>	<i>Houlton, Me.</i>	Δ T House
Daley, Carroll Thomas	<i>ch</i>	<i>Marlboro</i>	West, 3
Dolbear, Benjamin Leslie	<i>ee</i>	<i>Tufts College</i>	<i>134 Professors Row</i>
Douglas, James Earl	<i>ce</i>	<i>Hull</i>	West, 22
Ellis, Gilbert Everett, Jr.	<i>ee</i>	<i>E. Brewster</i>	West, 28
Ellis, Roys Arthur	<i>ee</i>	<i>Detroit, Mich.</i>	Z Ψ House
Fessenden, Edward Everett	<i>ab</i>	<i>Kingston, N. Y.</i>	Θ Δ X House
Fosdick, Genevieve Louise	<i>ab</i>	<i>Somerville</i>	<i>17 Grand View Ave.</i>
Francis, Roy William Thompson	<i>ee</i>	<i>Everett</i>	10 Fairmount St.
Fuller, George Prescott	<i>ch</i>	<i>Medford</i>	<i>7 Alfred St.</i>
Glidden, Bernice Evelyn	<i>ab</i>	<i>Medford</i>	<i>25 Emerson St.</i>
Gordon, Frank Vincent	<i>che</i>	<i>Everett</i>	<i>13 Paris St.</i>
Gray, Walter Fairfield	<i>sc</i>	<i>Somerville</i>	Δ T Δ House

Hamilton, Guy	ab	Tufts College	Θ Δ X House
Hansen, Edwin Henry	ee	Brockton	West, 10
Hatch, Prentice Manning	ee	W. Somerville	152 Powder House Blvd.
Heap, Samuel James	ce	Hartford, Conn.	West, 22
Hopkins, Levi Thomas	ab	Truro	West, 12
Houston, Henry Clinton	ce	Methuen	Paige, 6
Hulen, George Sanborn	ee	Cliftondale	Δ T Δ House
Jones, Marion Marble	ab	W. Somerville	1247 Broadway
Kimball, Robert Samuel	ee	Nashua, N. H.	Δ T House
Knight, Robert Mossman	ab-ee	Tufts College	114 Professors Row
Lamb, Leonard Illman	ce	Attleboro	Δ T House
Leavitt, John Henry	ee	W. Somerville	14 Cutter Ave.
Leonard, Helen May	ab	Stoughton	Metcalf, 1
Lincoln, Raymond Gilbert	ab	Hartford, Conn.	Θ Δ X House
Mailey, John Bruce	ce	Lynn	20 Howard St.
Mason, Harold Elliot	me	N. Andover	Curtis, 9
McLeod, Walter Rufus	ee	Boston	West, 11
Merchant, George Edward, Jr.	ce	Gloucester	Σ T A House
Miller, Harold DeCarterette	ee	Wakefield	A T Ω House
Morrison, Louise Augusta	ab	Arlington Heights	88 Westminster Ave.
Morrison, William, Jr.	ee	Lawrence	Σ T A House
Morrison, William Harrison, Jr.	ce	Nashua, N. H.	West, 28
Murrill, John Jeremiah	ee	Rockland	Δ T Δ House
Penniman, Ralph Wentworth	ab	Peabody	West, 12
Rextrow, Jennie Mildred	ab	N. Andover	Start, 6
Reynolds, James Alfred	ee	Somerville	21 Dana St.
Sanders, Ephraim Ericson	ce	Sweden	Σ T A House
Sargent, William Andrew	ab	Bradford, Vt.	Paige, 15
Savage, Sidney Leroy	ee	W. Somerville	27 Rogers Ave.
Seabury, Ada Bond	ab	Yarmouth, Me.	Start, 1
Segitz, Amy Derby	ab	Medford	224 Salem St.
Simmons, Ralph Marquis	ce	W. Somerville	406 Highland Ave.
Smith, Ada Louise	ab	Franklin	Metcalf, 10
Smith, Ruel Howard	me	Attleboro	A T Ω House
Snow, Frederick Orren, Jr.	me	Winchester	39 Forest St.
Soper, Cleveland Conner	ee	Hartford, Conn.	A T Ω House
Stanford, Walter Smead	ce	Shelburne Falls	Σ T A House
Swartz, Leslie	ce	Wellesley	West, 16
Taylor, Chester Warren	ee	So. Yarmouth	Paige, 17
Tolles, Irving Hart	ee	Terryville, Conn.	Δ T Δ House
Towsley, Prentice Williams	ce	Washington, Vt.	Δ T Δ House
Wales, Winthrop Lodge	ce	Hyde Park	Δ T House

Whippen, Henry Cass, A.B., '09	<i>ce</i>	<i>Kingston, N. H.</i>	West, 28
Whitney, Elmar Hursh	<i>ee</i>	<i>Somerville</i>	Paige, 34
Whitney, Frederic Percy	<i>ce</i>	<i>Somerville</i>	109 <i>Bartlett St.</i>
Wood, Effie Marie	<i>ab</i>	<i>Mattapoisett</i>	Metcalf, 10
Woods, George Rice	<i>sc</i>	<i>Portsmouth, N. H.</i>	Δ T House
Zion, Samuel	<i>ce</i>	<i>Boston</i>	Curtis, 7

Junior Class

Amsden, Clifford Neal	<i>ce</i>	<i>South Boston</i>	Dean, 14
Anderson, Frank William	<i>ee</i>	<i>Meriden, Conn.</i>	West, 27
Atwood, Byron Trafton	<i>ce</i>	<i>Salem</i>	West, 18
Bachelder, Charles Albert	<i>ee</i>	<i>Dorchester Centre</i>	116 <i>Evans St.</i>
Baker, Gladys Louise	<i>ab</i>	<i>Provincetown</i>	Metcalf, 4
Bartlett, Lewis William	<i>ce</i>	<i>Dalton</i>	Σ T A House
Bickford, Katharine Neal	<i>ab</i>	<i>Danvers</i>	Start, 3
Blyth, Alexander Watt	<i>ce</i>	<i>W. Somerville</i>	400 <i>Highland Ave.</i>
Bray, Hubert Evelyn	<i>ab</i>	<i>Yarmouth, England</i>	Paige, 12
Brown, Minot Joseph	<i>ab</i>	<i>W. Somerville</i>	11 <i>Morrison Place</i>
Browne, Wolstan Elliot	<i>ce</i>	<i>Abington</i>	Δ T House
Cahoon, George Winthrop	<i>ab</i>	<i>Taunton</i>	West, 25
Chapman, Fred Ingalls	<i>ee</i>	<i>Marblehead</i>	West, 20
Coldrick, Frank Meloon	<i>ee</i>	<i>Tufts College</i>	81 <i>Quincy St.</i>
Cosgrove, John William, Jr.	<i>ab</i>	<i>Medford</i>	87 <i>Otis St.</i>
Couillard, George Ellis	<i>me</i>	<i>Roxbury</i>	Paige, 20
Dittrick, Clarence Hoffman	<i>ee</i>	<i>Hudson, O.</i>	Paige, 24
DuBroy, Arthur Louis	<i>ee</i>	<i>Cleveland, O.</i>	Paige, 24
Duffey, Audrey Lovejoy	<i>ab</i>	<i>Medford</i>	Metcalf, 14
Dunn, Joseph Brickley	<i>ce</i>	<i>Dorchester</i>	Δ T House
Dustin, Charles Ernest	<i>ce</i>	<i>Dexter, Me.</i>	Δ T House
Edmonstone, William Mathias	<i>me</i>	<i>Everett</i>	28 <i>Dean St.</i>
Fullerton, Robert Smith	<i>ab</i>	<i>Roxbury</i>	9 <i>Wayne St.</i>
Gavin, John Harrison, Jr.	<i>ab</i>	<i>Boston</i>	West, 11
Granger, Laura Lucina	<i>ch</i>	<i>Winsted, Conn.</i>	Start, 7
Gray, Bernard Elbert	<i>ce</i>	<i>Medford</i>	148 <i>High St.</i>
Gray, Howard Allison	<i>ce</i>	<i>Somerville</i>	West, 2
Greenwood, Talma Temple	<i>ee</i>	<i>East Templeton</i>	90 <i>Bromfield Rd.</i>
Gurney, Elmer Augustus	<i>ch</i>	<i>Marion</i>	Σ T A House
Haley, James Joseph	<i>ce</i>	<i>Lowell</i>	Curtis, 11
Hall, George Laird	<i>ce</i>	<i>Somerville</i>	Δ T House
Haverley, Raymond	<i>ce</i>	<i>Greenwich, N. Y.</i>	Curtis, 8
Hearsey, Evelyn	<i>ab</i>	<i>Gleasondale</i>	Metcalf, 4
Hemenway, Russell Gibbs	<i>ch e</i>	<i>Newton Centre</i>	West, 10
Houghton, Mark Howard	<i>ce</i>	<i>Boston</i>	West, 18

Hussey, Harold Dudley	<i>ce</i>	<i>Danvers</i>	East, 1
Ireland, Everett Wesley	<i>ee</i>	<i>W. Somerville</i>	28 Appleton St.
Jackson, Leroy Greenwood	<i>ch</i>	<i>Marlboro</i>	West, 6
Kinsman, Osgood Stevens	<i>ce</i>	<i>Cambridge</i>	A T Ω House
Knight, Sue Levina	<i>ab</i>	<i>Westmoreland, N. H.</i>	Metcalf, A
Lasnier, Gilberto	<i>ee</i>	<i>Montevideo, Uruguay</i>	45 St. Botolph St., Boston
Little, William Parker	<i>ee</i>	<i>Willimantic, Conn.</i>	Θ Δ X House
Lowell, James Brower	<i>ce</i>	<i>Somerville</i>	Δ T Δ House
MacCurdy, Elmo Douglas	<i>ch</i>	<i>Somerville</i>	West, 4
MacKay, James Calvin	<i>ee</i>	<i>Waltham</i>	East, 8
MacPhie, Elmer Ira	<i>mp</i>	<i>Winchester</i>	Δ T Δ House
Mann, Joseph Frederick Thiele	<i>ee</i>	<i>Boston</i>	Δ T House
Marshall, Lawrence Kennedy	<i>ce</i>	<i>W. Medford</i>	West, 29
McClintock, Paul	<i>ee</i>	<i>Chelsea</i>	West, 24
McCollester, Parker	<i>ab</i>	<i>Detroit, Mich.</i>	Dean, 1
McLane, Allen Friend	<i>ce</i>	<i>Roxbury</i>	Dean, 14
Mergendahl, Charles Henry	<i>ce</i>	<i>Tufts College</i>	9 Bellevue St.
Moffitt, Harold Eugene	<i>ab</i>	<i>Malden</i>	Paige, 10
Morton, Joseph Webster	<i>ab</i>	<i>Somerville</i>	33 Pearson Rd.
Mulry, Mary Stanton	<i>ab</i>	<i>Methuen</i>	Metcalf, B
Neagle, Russell Jewett	<i>ee</i>	<i>Medford</i>	52 Bradshaw St.
Nelson, Harold Arthur	<i>me</i>	<i>Mentone, California</i>	West, 13
Prentiss, Charles Goodwin	<i>ab</i>	<i>S. Boston</i>	West, 9
Redshaw, Joseph Gaunt, Jr.	<i>ch</i>	<i>Lynn</i>	West, 3
Richert, George David	<i>ab</i>	<i>W. Medford</i>	East, 27
Ritschy, Donald Percy	<i>ce</i>	<i>Brooklyn, N. Y.</i>	A T Ω House
Robinson, Willis Brainard	<i>ab</i>	<i>Hingham Centre</i>	West, 1
Sawyer, Mildred Beatrice	<i>ab</i>	<i>Malden</i>	22 Baker St.
Shepard, Bertha Maria	<i>ab</i>	<i>Everett</i>	Metcalf, 15
Shorley, Marion Christine	<i>ab</i>	<i>Winthrop</i>	19 Bellevue Ave.
Skillin, Fred Burgess	<i>ce</i>	<i>W. Somerville</i>	37 Burnside Ave.
Stevens, Harold Francis	<i>ee</i>	<i>Medford</i>	87 Marshall St.
Sturtevant, Edith Marian	<i>sc</i>	<i>Lexington</i>	3 Hancock Ave.
Sullivan, Daniel Maynard	<i>ce</i>	<i>E. Boston</i>	West, 13
Thibodeau, Earle Thomas	<i>ab</i>	<i>Norway, Me.</i>	26 West St., Medford
Thompson, Leonard Shute	<i>ab</i>	<i>Malden</i>	Paige, 8
Thorndike, Allston Kinsley	<i>ce</i>	<i>Medford</i>	West, 16
Towne, Edward Martin	<i>ee</i>	<i>Andover</i>	East, 8
Tripp, Augustus Benjamin	<i>ce</i>	<i>Somerville</i>	67 Wallace St.
VanDemark, Ernest Snyder	<i>ce</i>	<i>High Falls, N. Y.</i>	West, 6
Vincent, Max Golden	<i>ee</i>	<i>Girard, Pa.</i>	Dean, 13
Wallace, Earle Sessions	<i>ch e</i>	<i>Pasadena, Cal.</i>	Paige, 6
Waterman, Grace Carpenter	<i>ab</i>	<i>Tufts College</i>	Metcalf, C

Whitcomb, Ernest Read	<i>ab</i>	<i>Somerville</i>	358 Broadway
Whitney, Carrol Nathan	<i>ch e</i>	<i>W. Somerville</i>	West, 2
Wilbur, Gladys Maude	<i>ab</i>	<i>S. Framingham</i>	Metcalf, 7
Williams, Clifford Elliot	<i>ce</i>	<i>Willimantic, Conn.</i>	18 Fairmount St.
Williams, Charles Hermon	<i>ce</i>	<i>Salem</i>	Curtis, 8
Willis, Ralph Loring	<i>ch</i>	<i>Three Rivers</i>	Dean, 13
Winship, Sylvanus Davis	<i>ce</i>	<i>Auburn, Me.</i>	Curtis, 11
Wise, Russell Perin	<i>ee</i>	<i>West Newton</i>	Θ Δ X House

Sophomore Class

Anderson, Arthur Julius	<i>ce</i>	<i>S. Manchester, Conn.</i>	East, 6
Atwater, Harry Arthur	<i>ch e</i>	<i>Somerville</i>	1 Avon St.
Bacon, Charles Aaron	<i>me</i>	<i>Bedford</i>	Σ T A House
Bailey, Ernest Wing	<i>ce</i>	<i>Medford</i>	7 Taylor St.
Berthold, Oscar Hudson	<i>sc</i>	<i>Needham</i>	69 Webster St.
Bicknell, Harry Irving	<i>ee</i>	<i>Weymouth</i>	Paige, 9
Bogue, Robert Herman	<i>ch</i>	<i>Tufts College</i>	29 Capen St.
Bradford, Edith Harriet	<i>ab</i>	<i>Somerville</i>	272 Summer St.
Bragdon, Ralph Hasty	<i>ab</i>	<i>S. Boston</i>	5 Pacific St.
Brandt, Arthur Williams	<i>e</i>	<i>Ontario Centre, N. Y.</i>	East, 24
Brigham, Ferdinand	<i>ab</i>	<i>S. Framingham</i>	West, 4
Brooks, Marion Louise	<i>ab</i>	<i>W. Medford</i>	47 Auburn St.
Brown, Stanley Morton	<i>ce</i>	<i>Chelsea</i>	West, 14
Bruerton, Courtney	<i>ab</i>	<i>Malden</i>	96 Cedar St.
Bugbee, Edwin Percy	<i>ee</i>	<i>Methuen</i>	West, 30
Bugbee, Ralph Lawrence	<i>ee</i>	<i>Methuen</i>	West, 30
Butler, Benjamin Jarvis	<i>ee</i>	<i>Somerville</i>	103 Bartlett St.
Butterfield, Estella Elizabeth	<i>ab</i>	<i>Jacksonville, Vt.</i>	Metcalf, 11
Carter, Louis Hayward	<i>ch</i>	<i>E. Weymouth</i>	Δ T House
Collins, Elinor Osborne	<i>ab</i>	<i>Exeter, N. H.</i>	Metcalf, 3
Crawford, James Stevenson	<i>ee</i>	<i>N. Cambridge</i>	20 Woodbridge St.
Cummings, Leon Franklin	<i>ab</i>	<i>Dorchester</i>	West, 9
Davis, Albert William	<i>ch</i>	<i>S. Boston</i>	146 L St.
Day, Ruth Lewis	<i>ab</i>	<i>E. Boston</i>	133 Princeton St.
Doble, Frank Currier	<i>ee</i>	<i>Methuen</i>	Paige, 7
Entwistle, Dorothy Russell	<i>ab</i>	<i>Everett</i>	55 Harvard St.
Faelten, Willibald Carl	<i>ce</i>	<i>Roxbury</i>	Dean, 7
Fairbank, Parker Wheeler	<i>ee</i>	<i>Sudbury</i>	East, 25
Fisher, Austin Wellington	<i>ab</i>	<i>Fitchburg</i>	West, 23
Frost, Walter Sprague	<i>ch</i>	<i>Roxbury</i>	Dean, 10
Fuller, Lena Frances	<i>ab</i>	<i>Everett</i>	63 Cottage St.
Fuller, Philip Ely	<i>ce</i>	<i>Thorndike</i>	West, 32

Glasier, Arthur Franklyn	<i>ch</i>	<i>Roxbury</i>	25 <i>Bainbridge St.</i>
Hamill, George Keenan	<i>ch e</i>	<i>Stoneham</i>	18 <i>Park St.</i>
Harris, Nathan Conant	<i>ce</i>	<i>Auburn, Me.</i>	Δ T House
Herrick, Ralph Morris	<i>ee</i>	<i>Allston</i>	7 <i>Allston Hts.</i>
Hudson, Herbert Harold	<i>ee</i>	<i>Saugus</i>	Dean, 8
Jackman, Irving Wilson	<i>me</i>	<i>Cambridge</i>	166 <i>Chestnut St.</i>
Jones, William Moshier	<i>ce</i>	<i>Swampscott</i>	East, 19
Kean, Charles Douglas	<i>ab</i>	<i>Dorchester</i>	Paige, 4
Killion, William Vincent	<i>ce</i>	<i>Malden</i>	East, 24
Lamont, Richard Roy	<i>ab</i>	<i>W. Somerville</i>	13 <i>Conwell Ave.</i>
Lamprey, Pauline Adriana	<i>ab</i>	<i>Medford</i>	11 <i>Fulton St.</i>
Larrabee, Ernest Alonzo	<i>ee</i>	<i>Marlboro</i>	East, 29
Libby, John Edgar	<i>ab</i>	<i>Auburn, Me.</i>	Dean, 9
Lynch, John Francis	<i>ab</i>	<i>N. Cambridge</i>	1 <i>Cedar Sq.</i>
Mansfield, Lloyd Lewis	<i>me</i>	<i>Swampscott</i>	East, 34
Marble, Earl Robert	<i>ch e</i>	<i>Attleboro</i>	East, 19
Martins, Joseph da Silveira	<i>ce</i>	<i>Azores Islands</i>	West, 19
Maulsby, William Shipman	<i>ab</i>	<i>W. Somerville</i>	80 <i>Curtis St.</i>
McKenna, William Joseph	<i>ch</i>	<i>Winthrop</i>	West, 20
Medeiros, Roger Maria de Carvalho	<i>ee</i>	<i>Nordeste, St. Mickel's, Azores Islands</i>	West, 19
Merrill, Frank Wood	<i>ce</i>	<i>W. Somerville</i>	90 <i>Curtis St.</i>
Murray, Clifford Robert	<i>ce</i>	<i>Wethersfield, Conn.</i>	West, 31
Nason, Walton Hooker	<i>ce</i>	<i>N. Billerica</i>	Δ T House
Nickerson, Roy Gilchrist	<i>ch</i>	<i>Provincetown</i>	Z Ψ House
Page, Fred Odell	<i>ab</i>	<i>Plainfield, Vt.</i>	West, 8
Page, Roland Humphrey	<i>ce</i>	<i>Boston</i>	West, 29
Patten, Francis Howard	<i>ee</i>	<i>Marion</i>	Σ T A House
Phalen, Harold Romaine	<i>me</i>	<i>Acton</i>	Σ T A House
Phelps, Edward Parkhurst	<i>ce</i>	<i>Greenwood</i>	East, 22
Quennell, Alvin William	<i>ee</i>	<i>Roxbury</i>	West, 29
Savage, Percy Godfrey	<i>ch</i>	<i>Medford</i>	15 <i>Lapham St.</i>
Schwartz, Samuel	<i>ce</i>	<i>E. Billerica</i>	29 West St., W. Somerville
Sheehan, Thomas William	<i>ce</i>	<i>Malden</i>	479 <i>Pleasant St.</i>
Smith, Alfred Newell	<i>me</i>	<i>Dedham</i>	1 <i>Ashcroft St.</i>
Smith, Lilian Cora	<i>ab</i>	<i>Kensington, N. H.</i>	Metcalf, 12
Spear, Alice Josephine	<i>ab</i>	<i>Hyde Park</i>	Start, 3
Swenson, Ernest Siegfried	<i>sc</i>	<i>Medford</i>	47 <i>Newbern Ave.</i>
Talbot, Geoffrey Wanstall	<i>ee</i>	<i>Tufts College</i>	11 <i>Edison Ave.</i>
Vande Bogert, Edith Marguerite	<i>ab</i>	<i>Bearsville, N. Y.</i>	14 Winthrop St., Winchester
Weber, Harry Oscar	<i>ce</i>	<i>South Wales, N. Y.</i>	East, 29
West, John Albert	<i>ch e</i>	<i>Medford</i>	8 <i>Malvern Terrace</i>

White, Alfred Baylies	<i>sc</i> Taunton	Z Ψ House
Woodbury, Edna Currier	<i>ab</i> Somerville	9 Howe St.

Freshman Class

Adams, John Harold	<i>e</i> Passaic, N. J.	East, 20
Anderson, Mildred Elvera	<i>ab</i> S. Manchester, Conn.	Metcalf, 15
Atwater, Ralph Wight	<i>e</i> Somerville	1 Avon St.
Belt, Ada Louise	<i>ab</i> W. Somerville	90 Bromfield Rd.
Bennett, Edwin Saxton, Jr.	<i>sc</i> New Canaan, Conn.	West, 26
Benson, Harry Oscar	<i>e</i> Everett	29 Oliver St.
Berthold, Louise Anna	<i>ab</i> Saugus	392 Main St.
Blanchard, Frank Nelson	<i>ab</i> W. Somerville	2 Curtis Ave.
Boynton, William Henry	<i>mp</i> Groton	East, 23
Bush, Vannevar	<i>e</i> Chelsea	Dean, 10
Carlton, Lucy Barrett	<i>ab</i> Chelsea	75 Harvard St.
Chapin, Octavia	<i>ab</i> Medford	102 Summer St.
Charnock, Percy Clyde	<i>ce</i> Tufts College	50 Quincy St.
Colby, Marion Adeline	<i>ab</i> Hillsboro, N. H.	Metcalf, 13
Colman, Roger Ammiel	<i>e</i> Somerville	151 Central St.
Coombs, Harry	<i>ce</i> Tufts College	East, 25
Costanza, George	<i>ab</i> Boston	309 North St.
Davey, Katherine Teresa	<i>ab</i> Lawrence	152 Oak St.
Davis, Beatrice Labaree	<i>ab</i> Webster	Metcalf, 3
Dean, Leland Edgar	<i>ce</i> Cambridge	8 Rockingham St.
Dearborn, Fred Earle	<i>e</i> Canterbury, N.H.	24 William St., W. Somerville
Dennett, George Franklin	<i>e</i> Cambridge	18 Springfield St.
Dickinson, Roy Willis	<i>ab</i> Wiscasset, Me.	Paige, 13
Dillingham, Paul	<i>sc</i> Bridgeport, Conn.	West, 26
Dodd, Mary Helen	<i>ab</i> Lexington	14 Sherman St.
Ellms, Carlton Warren	<i>e</i> S. Sudbury	East, 33
Etheridge, Harold Lowell	<i>ee</i> Somerville	Z Ψ House
Faden, James Leatherbee	<i>e</i> Waltham	18 Pleasant St.
Fairbanks, Frank Bates	<i>ab-e</i> Passaic, N. J.	East, 20
Fallis, Ethel Hazel	<i>sc</i> W. Somerville	43 Hall Ave.
Feeley, Edward Murray	<i>sc</i> Brookline	East, 17
Ferraz, Raul de Oliveira	<i>e</i> Sao Paulo, Brazil, S. A.	90 Curtis St.
Field, Abby Rugg	<i>ab</i> Providence, R. I.	Metcalf, 7
Field, Herbert Vaughan	<i>ch</i> W. Somerville	21 Milton St.
Fisher, George	<i>e</i> Boston	50 Salem St.
Flint, Fred Warren	<i>e</i> W. Somerville	22 Dover St.
Foster, Frank Irving	<i>e</i> Melrose	223 W. Emerson St.
Foster, Marion Fenwick	<i>ab</i> W. Somerville	11 Whitfield Rd.

Freeman, Harris Howard	<i>e</i>	<i>Somerville</i>	24 Bonner Ave.
Gale, Louis Bernard	<i>e</i>	<i>Marblehead</i>	East, 16
Gallupe, Harold Quimby	<i>ch</i>	<i>Everett</i>	175 Hancock St.
Gillespie, Norman Wilkinson	<i>ab</i>	<i>Dorchester</i>	683 Columbia Rd.
Goff, Herbert Bancroft	<i>e</i>	<i>Attleboro</i>	East, 28
Golden, Annie	<i>sc</i>	<i>Somerville</i>	9 Crown St.
Goldman, Abraham Hyman	<i>e</i>	<i>Boston</i>	29 Lowell St.
Goodwin, Joseph Michael	<i>e</i>	<i>Stoneham</i>	35 Pleasant St.
Gott, Charles	<i>ab</i>	<i>Arlington</i>	41 Medford St.
Gould, Charles Thomas	<i>e</i>	<i>Cambridge</i>	35 Tufts St.
Graham, Arthur Francis, Jr.	<i>e</i>	<i>Dorchester</i>	12 Thane St.
Gray, Inez Marion	<i>ab</i>	<i>Portsmouth, N. H.</i>	Metcalf, 5
Green, Marion Adelaide	<i>ab</i>	<i>Everett</i>	35 Dean St.
Green, Thomas Henry	<i>e</i>	<i>Winthrop</i>	East, 31
Greenberg, Rose	<i>ab</i>	<i>W. Somerville</i>	18 Rogers Ave.
Greenough, Maurice Brown	<i>ce</i>	<i>Groveland</i>	East, 6
Gurvin, John Edward	<i>e</i>	<i>Somerville</i>	6 Wilson Ave.
Hall, Ernest Gerarde	<i>e</i>	<i>Somerville</i>	239 Highland Ave.
Harrington, Rufus Frost	<i>ch</i>	<i>Medford</i>	21 College Ave.
Harris, Gilbert Munday	<i>e</i>	<i>Newton</i>	201 Newtonville Ave.
Hartshorn, Carl Larrabee	<i>e</i>	<i>W. Somerville</i>	59 Irving St.
Harvey, Will Calvin	<i>ab-bd</i>	<i>Newfane, Vt.</i>	Paige, 27
Hazeltine, Burt Alden	<i>e</i>	<i>W. Somerville</i>	20 Day St.
Henderson, William Davis	<i>e</i>	<i>Tompkinsville, N. Y.</i>	East, 14
Henry, David Edward	<i>ee</i>	<i>Dorchester</i>	East, 26
Higgins, Reuben, Jr.	<i>e</i>	<i>S. Portland, Me.</i>	West, 31
Hogan, Francis Cleveland Kenneth	<i>e</i>	<i>W. Somerville</i>	53 Bromfield Rd.
Hooper, Allen Gunnison	<i>ab-e</i>	<i>Tufts College</i>	124 Professors Row
Hughes, John Parnell	<i>ab</i>	<i>Winthrop</i>	East, 31
Hulen, Bertram Dyer	<i>ab</i>	<i>Cliftondale</i>	Dean, 3
Hunnewell, William	<i>e</i>	<i>Somerville</i>	23 Milton St.
Huntington, Paul Osborne	<i>e</i>	<i>Ayer</i>	
Hussey, Philip Ellison	<i>e</i>	<i>Mattapan</i>	East, 21
Isola, Vico Cacciatori	<i>mp</i>	<i>Waban</i>	West, 25
Jackson, Helen Camille	<i>ab</i>	<i>Medford</i>	86 Otis St.
Johnson, Philip Woodbury	<i>e</i>	<i>Methuen</i>	West, 15
Jones, Walter Leverett	<i>e</i>	<i>Somerville</i>	8 Pleasant Ave.
Kattelle, Laurence Watson	<i>ch e</i>	<i>W. Newton</i>	West, 15
Keegen, John Louis	<i>ab</i>	<i>Brookline</i>	East, 32
Kendall, Harrison Shattuck	<i>e</i>	<i>Waverley</i>	146 Mill St.
Kewer, Leo Thomas	<i>ch</i>	<i>Waverley</i>	16 Hawthorne St.
Lawlor, James Joseph	<i>ce</i>	<i>Chelsea</i>	108 Auburn St.
Lloyd, George Adolph	<i>e</i>	<i>Somerville</i>	68 Albion St.

Longley, Pearle Emogene	<i>ab</i>	<i>Winchester</i>	<i>77 Walnut St.</i>
Lord, Kenneth Prince	<i>e</i>	<i>Rockland, Me.</i>	<i>Paige, 2</i>
Lovejoy, Esther Lizzie	<i>ab</i>	<i>W. Somerville</i>	<i>62 Rogers Ave.</i>
Lovering, Stanley Hutchinson	<i>e</i>	<i>W. Medford</i>	<i>42 Harvard Ave.</i>
Lovett, Israel Herrick	<i>e</i>	<i>Omaha, Neb.</i>	<i>13 Lincoln St., Somerville</i>
Lowe, Robert Manning	<i>ab</i>	<i>Rockport</i>	<i>23 Ware St., W. Somerville</i>
Mackin, Clarence Harvey	<i>ab</i>	<i>Manchester</i>	<i>West, 14</i>
MacKillop, Daniel Alexander	<i>ee</i>	<i>Grand River Falls, N. S.</i>	<i>21 W. Dedham St., Boston</i>
Manning, Bessie	<i>ab</i>	<i>Hillstown, Ct.</i>	<i>Metcalf, 6</i>
Mansfield, Robert Chapman	<i>e</i>	<i>Swampscott</i>	<i>East, 34</i>
Marden, Leslie Ona	<i>e</i>	<i>W. Somerville</i>	<i>20 Powder House Ter.</i>
Martin, Abner Waldo	<i>me</i>	<i>Salem</i>	<i>West, 1</i>
Martin, Helen Julia	<i>ab</i>	<i>Plainfield, Vt.</i>	<i>Metcalf, 2</i>
McAuliffe, John Augustin	<i>e</i>	<i>Dorchester</i>	<i>71 Thitford Ave.</i>
McCarthy, Joseph Augustine	<i>ab</i>	<i>N. Andover</i>	<i>231 Cleveland St.</i>
McCollom, Welby Henry	<i>e</i>	<i>Roslindale</i>	<i>40 Symmes St.</i>
Monge, L. Ernesto	<i>e</i>	<i>Quito, Ecuador</i>	<i>245 W. Newton St., Boston</i>
Mountfort, Sumner Leighton	<i>e</i>	<i>Portland, Me.</i>	<i>West, 23</i>
Moyer, Ruth	<i>ab</i>	<i>Hartford, Conn.</i>	<i>Metcalf, 2</i>
Nolan, Conrad	<i>e</i>	<i>Jacksonville, Fla.</i>	<i>120 Curtis St.</i>
O'Donnell, Roger Joseph	<i>e</i>	<i>S. Boston</i>	<i>145 L St.</i>
Owler, Isabella Gertrude	<i>ab</i>	<i>Somerville</i>	<i>30 Browning Road</i>
Parker, Levi Wright	<i>e</i>	<i>Somerville</i>	<i>45 Dartmouth St.</i>
Pecker, Albert David	<i>e</i>	<i>Marblehead</i>	<i>Tedesco St.</i>
Penniman, Ruth Evelyn	<i>ab</i>	<i>Peabody</i>	<i>Start, 4</i>
Phelps, Harry Louis	<i>e</i>	<i>Marlboro</i>	<i>East, 33</i>
Phillips, Etta Marion	<i>ab</i>	<i>Lowell</i>	<i>Start, 4</i>
Phillips, Wendell Codding	<i>e</i>	<i>Dedham</i>	<i>Dean, 11</i>
Porter, Leslie Ross	<i>ce</i>	<i>Peabody</i>	<i>Dean, 7</i>
Prentiss, John Herbert	<i>e</i>	<i>Belmont</i>	<i>206 Prospect St.</i>
Proctor, Percy Maynard	<i>sc</i>	<i>N. Cambridge</i>	<i>138 Elm St.</i>
Raymond, George Stanley	<i>me</i>	<i>N. Cambridge</i>	<i>51 Upland Road</i>
Rindge, Wellington	<i>ch</i>	<i>Cambridge</i>	<i>62 Upland Rd.</i>
Risegari, George	<i>e</i>	<i>Somerville</i>	<i>28 Claremon St.</i>
Ritchie, Effie May	<i>ab</i>	<i>W. Somerville</i>	<i>293 Summer St.</i>
Roberts, Raymond Moulton	<i>ee</i>	<i>Melrose Hlds.</i>	<i>124 Franklin St.</i>
Robnett, Edwin Howard	<i>ee</i>	<i>Tyler, Texas</i>	<i>Dean, 11</i>
Rorty, James Hancock	<i>ab</i>	<i>Middletown, N. Y.</i>	<i>East, 30</i>

Russell, Cyrus Johns	<i>e</i>	<i>W. Somerville</i>	1097 Broadway
Sanborn, Edith May	<i>ab</i>	<i>Amesbury</i>	Start, 7
Sargent, Ralph Edward	<i>e</i>	<i>Annisquam</i>	East, 16
Scammon, Helen Rachel	<i>ab</i>	<i>Stratham, N. H.</i>	Metcalf, 12
Schreiber, Herman Louis	<i>ce</i>	<i>Jamaica Plain</i>	13 Bishop St.
Searle, Dana Aubrey	<i>e</i>	<i>Franklin</i>	West, 27
Secoy, Edgar David	<i>sc</i>	<i>Johnstown, N. Y.</i>	Paige, 14
Shaw, Irving Roland	<i>ch</i>	<i>Palmer</i>	Z Ψ House
Shepard, Ruth	<i>ab</i>	<i>Wakefield</i>	Metcalf, 14
Smith, William Paine	<i>ab</i>	<i>Beverly</i>	West, 16
Sokolovsky, Jacob Max	<i>e</i>	<i>Boston</i>	83 Poplar St.
Steinberg, Antonia Adeline	<i>ab</i>	<i>Webster</i>	Metcalf, B
Sterling, Lewis Edwin	<i>ee</i>	<i>Everett</i>	66 Lexington St.
Strecker, Harry Louis	<i>e</i>	<i>Boston</i>	41 E. Concord St.
Strong, William Millgrove	<i>ch</i>	<i>Everett</i>	19 Waverley St.
Stryker, Henry Bernard	<i>e</i>	<i>Cambridge</i>	28 Tremont St.
Taylor, Prentiss Willard	<i>e</i>	<i>Hinsdale, N. H.</i>	West, 24
Thacher, Lester Enoch	<i>mp</i>	<i>Dorchester</i>	Dean, 14
Tosi, Joseph Andrew	<i>e</i>	<i>Revere</i>	East, 26
Tower, Carl William	<i>e</i>	<i>Everett</i>	233 Belmont St.
Tower, Henry Edward	<i>e</i>	<i>Hudson</i>	East, 9
Truesdale, Herbert Lawrence	<i>e</i>	<i>Somerville</i>	174 Albion St.
Waterman, Charlotte Jane	<i>ab</i>	<i>Tufts College</i>	Metcalf, C
Wellman, George Ralph	<i>e</i>	<i>Westminster West, Vt.</i>	East, 30
Whippen, Leonard Swan	<i>e</i>	<i>Kingston, N. H.</i>	East, 15
White, Hazel	<i>ab</i>	<i>Somerville</i>	30 Richdale Ave.
Whiting, Lewis Morton	<i>ee</i>	<i>Accord</i>	West, 1
Wilde, Zilpah	<i>ab</i>	<i>W. Somerville</i>	12 Raymond Ave.
Wiley, Alma Gertrude	<i>ab</i>	<i>Somerville</i>	446 Broadway
Williams, Harold Jenkin	<i>ch</i>	<i>Quincy</i>	74 Common St.
Wolcott, John Gilmore	<i>sc</i>	<i>Cambridge</i>	11 Trowbridge St.
Woode, Alva Vivian	<i>ab</i>	<i>Kingston, Jamaica</i>	23 Cross St., Charlestown

Special Students

Allen, Herbert Joseph	<i>Ayer</i>	Curtis, 1
I. <i>Chemistry</i>		
Baker, Harold Nicholas	<i>N. Attleboro</i>	90 Curtis St.
I. <i>Medical Preparatory</i>		
Bradbury, Alma Gray	<i>Boston</i>	Metcalf, 6
III. <i>Language</i>		
Butler, Helen Louise	<i>W. Medford</i>	17 Irving St.
III. <i>Language</i>		

Carter, Herbert Melville	<i>Norwood</i>	East, 14
I. <i>Medical Preparatory</i>		
Donovan, Juliana Cecilia	<i>W. Somerville</i>	126 College Ave.
IV. <i>Economics</i>		
Gale, Marion Emeline	<i>Webster</i>	Start, 3
I. <i>English</i>		
Graham, Emily Cox	<i>Yarmouth, Me.</i>	
I. <i>Language</i>	1 Evergreen Ave., Somerville	
Harmon, Helen Althea	<i>Tufts College</i>	114 Curtis St.
II. <i>Science and Language</i>		
Hight, William Webster	<i>Portland, Me.</i>	West, 5
II. <i>Science and Language</i>		
Honeij, James Albert, M.D., '08	<i>Cambridge</i>	2 Arlington St.
II. <i>Biology</i>		
Shortell, Joseph Henry	<i>Salem</i>	9 Laurel St.
I. <i>Medical Preparatory</i>		
Weiner, Charles K.	<i>Somerville</i>	467 Columbia St.
I. <i>Medical Preparatory</i>		

Supplementary List

[Students present during 1908-09, but not appearing in the catalogue]

Charnock, Percy Clyde	<i>ce Tufts College</i>	50 Quincy St.
Dean, Leland Edgar	<i>e Cambridge</i>	8 Rockingham St.
Porter, John Edwards	<i>sp Somerville</i>	194 Central St.
Shinn, Philip Allen	<i>ee Tufts College</i>	
Winchester, John Jacob	<i>me Woburn</i>	22 Plympton St.

Theological School

THREE-YEAR COURSE

Second Year

Morton, George Fisher, B.S., '99; M.S., '00	<i>W. Somerville</i>	Paige, 2
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First Year

Robinson, Elmo Arnold, B.S. (M. I. T.) '09	<i>Canandaigua, N. Y.</i>	Paige, 26
Wilmot, Frederick Algernon, A.B. (Harv.) '09	<i>Boston</i>	Paige, 16

FOUR-YEAR COURSE

Fourth Year

Boorn, George Clyde	<i>Adams</i>	Paige, 36
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First Year

Robertson, Forbes William	<i>Arlington</i>	Paige, 28
Scott, Clinton Lee	<i>Newport, Vt.</i>	Paige, 21

SIX-YEAR COURSE

Sixth Year

Vogt, Dayton George, A.B., '08	<i>Buffalo, N. Y.</i>	Paige, 22
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Fifth Year

Etz, Roger Frederick, A.B., '09	<i>Cleveland, O.</i>	Paige, 19
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Third Year

Blagbrough, Vernon Edmund	<i>Orange</i>	Paige, 18
Carritt, Ernest Henry	<i>Tufts College</i>	Paige, 31

First Year

Gaskin, William	<i>Dixfield, Me.</i>	Paige, 25
Harvey, Will Calvin	<i>Newfane, Vt.</i>	Paige, 27

Special Students

Hale, Arthur Thomas	<i>Lawrence</i>	Paige, 1
Mann, Horatio Gardner	<i>Rockland</i>	Paige, 35
Moon, Thomas Elmer	<i>Philadelphia, Pa.</i>	Paige, 14
Porter, John Edwards	<i>Tufts College</i>	Paige, 30
Rose, William Wallace	<i>Philadelphia, Pa.</i>	Paige, 29

Bromfield-Pearson School

Azevedo, Renato de Almeida	<i>Sao Paulo, Brazil</i>	90 Curtis St.
Heine, Richard Lindsay	<i>Medford</i>	49 Summer St.
Hussey, William Horner	<i>Danvers</i>	East, 1
MacKenzie, Clifford Royal	<i>Boston</i>	West, 32
Tattan, John David	<i>Somerville</i>	458 Somerville Ave.
Weaver, Frederic Nixon	<i>Dorchester</i>	65 Edson St.
Whippen, Joseph Gordon	<i>E. Lynn</i>	East, 15
White, Merritt Oberlin	<i>Clintonville, Ohio</i>	East, 13

Medical School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Fourth Year

Abbott, Samuel Edson	<i>Auburn, N. Y.</i>
Bigelow, James Bernard	<i>Holyoke</i>
Bliss, Raymond Whitcomb	<i>Belmont</i>
Bolduc, Alfred George	<i>Fall River</i>
Burnett, Louis Raymond	<i>E. Milton</i>
Byrne, Claudius James	<i>Concord, N. H.</i>
Cameron, Edward Spence	<i>Pawtucket, R. I.</i>
Campbell, Fred Glover	<i>Rockland, Me.</i>
Cassels, Louis Raymond	<i>Attleboro Falls</i>
Chandler, Charles Henderson	<i>Boston</i>
Clark, Harry Ainsworth	<i>Dorchester</i>
Cook, James Henry	<i>Brookline</i>
Cook, William Wilder	<i>Brookline</i>
Crandall, Walter Midkiff	<i>Lynn</i>
Cummings, Dana Frank	<i>Natick</i>
Davidson, Alfred, PHARM. D. (Mass. Coll. Ph.)	<i>E. Boston</i>
Dixon, Arthur	<i>Worcester</i>
Dodd, John Edward	<i>Holliston</i>
Donovan, Walter James	<i>Providence, R. I.</i>
Dow, Frank Edward	<i>Roxbury</i>
Drummev, Joseph Leonard	<i>Waltham</i>
Ducharme, Alphonse Napoleon, B.L. (Laval)	<i>Worcester</i>
Dunham, Harry Bartlett	<i>Brockton</i>
Dunn, James Ringer	<i>Winthrop</i>
Earle, George William	<i>Boston</i>
Fishman, Maurice	<i>Lawrence</i>
Folger, George Arthur	<i>Melrose</i>
Funnell, Wilfred Goldwin	<i>New York, N. Y.</i>
Gerber, Wilhelmina Georgina Marie von . .	<i>Weston</i>
A.B. (Bryn Mawr)	
Granstein, Charles Israel	<i>Chicopee</i>
Hagerty, Harry John	<i>Arch Spring, Pa.</i>
Harnett, Edward Henry Lewis	<i>Dorchester</i>
Harrington, Daniel James Leo	<i>Dorchester</i>
Hassett, Leonard Watson	<i>Lynn</i>
Heffernan, Dennis William	<i>Holliston</i>

Hennessey, Thomas Francis	<i>Weymouth</i>
Herrin, Herbert Eliot	<i>Boston</i>
Hughes, Frank	<i>Everett</i>
Jamieson, Earl Frederick	<i>Boston</i>
Kagan, Samuel Henry	<i>Roxbury</i>
Kelleher, James Patrick	<i>Brockton</i>
Kenney, Clarence Bronson	<i>Sharon, Vt.</i>
Kerr, Robert Brown	<i>Roxbury</i>
Lamoureux, Stanislas Albert	<i>New Bedford</i>
Lawley, Brace Irving	<i>Skowhegan, Me.</i>
Leonard, Christina Margaret	<i>Lewiston, Me.</i>
Lored, Serafin	<i>Havana, Cuba</i>
Macaulay, Joseph Arthur	<i>Boston</i>
Marston, Warren Winfield	<i>Cochituate</i>
Martin, Oscar	<i>Tufts College</i>
McCarthy, Eugene Francis	<i>Cambridge</i>
McMahon, Francis Joseph	<i>Brookline</i>
Messier, Adlor Eugene	<i>Worcester</i>
Moriarty, John Joseph	<i>Danvers</i>
Morse, Alfred Irving	<i>Cliftondale</i>
Morse, Karl Goff	<i>Waterville, Me.</i>
Muir, Robert Joseph	<i>Dorchester</i>
Murphy, Dennis John	<i>Worcester</i>
Murphy, John Patrick Henry	<i>Cambridge</i>
Myers, Edward Louis	<i>Woonsocket, R. I.</i>
Olin, Harry	<i>Somerville</i>
O'Sullivan, Anna	<i>Boston</i>
Owen, Albert Simpson	<i>South Framingham</i>
Penny, Mary McDermott	<i>Cliftondale</i>
Perkins, Hamilton Chesley	<i>Madbury, N. H.</i>
Pobirs, Louis Jacob	<i>Providence, R. I.</i>
Poirier, George Henri	<i>Salem</i>
Reynolds, Frank Leo Sinclair	<i>Worcester</i>
Richards, Cyril Godfrey	<i>Boston</i>
Rosen, David William	<i>Boston</i>
Slater, Eleanor Mary	<i>Boston</i>
Smith, Earl Moulton	<i>Boston</i>
Sprague, Russell Bradford	<i>Providence, R. I.</i>
Stearns, Albert Warren	<i>Boston</i>
Thomas, Elmer Ellsworth	<i>Milford</i>
Toomey, Joseph Humphrey	<i>S. Boston</i>
Tripp, Edwin Prescott	<i>Beverly</i>
Tynan, Joseph Patrick	<i>Boston</i>

Webb, Albert Edward	<i>Salem</i>
Welch, Daniel Edward	<i>Salem</i>
White, Robert Marshall	<i>Cambridge</i>

Third Year

Ahlstrom, Hjalmar	<i>Boston</i>
Barone, Joseph	<i>Boston</i>
Behrman, Roland Augustus	<i>Waltham</i>
Belin, Harry	<i>Boston</i>
Bicknell, Ralph William	<i>Canton, Me.</i>
Blount, Samuel Gilbert	<i>Providence, R. I.</i>
Boyd, Francis Peter	<i>Brockton</i>
Boyd, James Francis	<i>Brockton</i>
Buck, Clifton Leon	<i>Wilton, Me.</i>
Cantarow, Daniel, Ph.G. (Russia Coll. Ph.)	<i>Hartford, Conn.</i>
Caswell, Walter Wells	<i>Boston</i>
Church, Claude Henry	<i>Cambridge</i>
Clarke, Thomas Greene	<i>Fall River</i>
Coates, Edward Augustus, Jr.	<i>Winthrop</i>
Cohen, Nathaniel Maurice	<i>Roxbury</i>
Comerford, Ethel Frances	<i>Athol</i>
Cooney, Margaret Blanche	<i>West Newbury</i>
Coppinger, Sarah Elisabeth	<i>Needham Heights</i>
Cosgrove, Joseph Justin	<i>Hopkinton</i>
Croke, Louis Ward	<i>Dorchester</i>
Cummings, Frank Anthony	<i>Providence, R. I.</i>
Currier, Cyrus Richardson	<i>Dorchester</i>
Dwyer, John Edward, Jr.	<i>Cambridge</i>
Edelstein, Samuel	<i>Roxbury</i>
Fennelly, Daniel John	<i>Fall River</i>
Forhan, Neil Kittredge	<i>Canton, Me.</i>
Garipay, Ellsworth Peter	<i>Holyoke</i>
Golden, Joseph Francis	<i>Roxbury</i>
Gwinnell, Alfred Weston	<i>Boston</i>
Hagopian, Levon George	<i>Boston</i>
Henderson, Frank Francis	<i>Roxbury</i>
Ireson, Franklin Reynolds	<i>Marblehead</i>
Johnson, Alfred Emile, Jr.	<i>Dedham</i>
Kaplovitch, Henry	<i>Lawrence</i>
Kelley, Edward Joseph	<i>Brookville</i>
Kindregan, Thomas Henry	<i>Brockton</i>
Lussier, Waldo James	<i>Woonsocket, R. I.</i>
Lynch, Henry Edmund	<i>Holyoke</i>
Mackenzie, Roland Chester	<i>Waltham</i>

Marr, Edward Loring	<i>Malden</i>
Martin, Edward	<i>Boston</i>
Miller, William Henry, A.B. (Lincoln)	<i>Charleston, S. C.</i>
Oulton, Lamert, PHARM.D. (Mass. Coll. Phar.)	<i>Port Elgin, N. B.</i>
Pearl, Samuel Maurice	<i>Boston</i>
Perkins, Franklin Aborn	<i>Madbury, N. H.</i>
Peter, Alphonse Joseph	<i>Salem</i>
Power, James Edward, D.M.D. (Harvard)	<i>Providence, R. I.</i>
Preble, Grace Olive	<i>E. Boston</i>
Quennell, Willard Leslie	<i>Boston</i>
Quinby, Robert Stanley	<i>N. Sandwich, N. H.</i>
Remick, Sumner Haven	<i>Reading</i>
Robertson, Wilhelmine	<i>Arlington</i>
Scott, Norman McLean	<i>Melrose Highlands</i>
Seavey, Hollis Lester	<i>Cambridge</i>
Shaw, Celeste Beatrice	<i>Newport, N. S.</i>
Steward, Carleton White, A.B. (Colby)	<i>Rockport, Me.</i>
Stone, Jane Gray	<i>Roxbury</i>
Strom, Marie Charlotte	<i>Cumberland, Me.</i>
Sullivan, Charles Joseph	<i>Randolph</i>
Tibbetts, Guy Daniel	<i>Gloucester</i>
Wagner, Joseph Aloywious	<i>Providence, R. I.</i>
Waldie, George McLeod	<i>Dorchester</i>
Waterhouse, Roscoe Morgan	<i>Somerville</i>
White, Henry Alverado	<i>Taunton</i>
Willoughby, Earl Carlisle	<i>N. Haverhill, N. H.</i>
Wilson, John Thomas	<i>Salem</i>
Wyman, Edwin Theodore	<i>Sebec, Me.</i>
Young, Annie Roberts	<i>S. Berwick, Me.</i>

Second Year

Adamian, Mariam Garoudj	<i>Boston</i>
Ahern, John Francis	<i>Dorchester</i>
Albert, Lionel Louis	<i>Malden</i>
Allard, Carlton Eugene	<i>Allerton, Iowa</i>
Allison, Carl Edwin	<i>Wakefield</i>
Ayers, Charles Elton	<i>Taunton</i>
Barney, Willis Oliver	<i>Malden</i>
Barrow, Allen Rogers	<i>Milford</i>
Benway, Charles Alfred	<i>Somerville</i>
Blanchard, Paul Drake	<i>Oldtown, Me.</i>
Brown, Chester Perkins	<i>Cambridge</i>
Brown, Ralph Neally	<i>Meredith, N. H.</i>

Brown, Roy Farrington	<i>Provincetown</i>
Brunelle, Arthur Lord	<i>New Bedford</i>
Brunick, Patrick Vincent	<i>S. Boston</i>
Burack, Abraham	<i>Roxbury</i>
Burrell, Harry Cutter	<i>Medford</i>
Church, Belle Seddon	<i>Cambridge</i>
Clarke, Willis Earl	<i>Portland, Me.</i>
Cleary, Robert Emmett	<i>Holyoke</i>
Colwill, Albert William	<i>Magnolia</i>

PHARM.D. (Mass. Coll. Ph.)

Conley, Brainard Francis	<i>Ipswich</i>
Corvese, Anthony, P.H.G. (R. I. Coll. Ph.)	<i>Providence, R. I.</i>
Couch, Mary Catherine	<i>Somerville</i>
Coursey, Frank Rudolph	<i>Boston</i>
Courtney, Thomas Joseph	<i>Worcester</i>
Curran, John Francis	<i>Wheelwright</i>
Cutler, Myron Fred	<i>W. Somerville</i>
Cutler, Raymond William	<i>Worcester</i>
Davis, Charles Frank, Jr.	<i>Littleton, N. H.</i>
DeWolf, Charles Wentworth	<i>Somerville</i>
Downie, Charlie DeVaudry	<i>W. Somerville</i>
Drury, John Aloysius	<i>N. Attleboro</i>
Duncan, Stanley Forbes	<i>Quincy</i>
Eager, Harold Williams	<i>Manchester, N. H.</i>
Edwards, Bessie Lee	<i>Lynn</i>
Espejo, Gonzalo	<i>Merida, Yucatan, Mexico</i>
Finkel, Samuel Paul	<i>Boston</i>
Finkelstein, Nathan	<i>Boston</i>
Fitzpatrick, George Edward	<i>N. Bellingham</i>
Foley, Pauline Muriel	<i>Brighton</i>
Forrest, Erle D.	<i>Boston</i>
Fountaine, Ernest Hanson, D.M.D. (1908)	<i>Haverhill</i>
Gale, Eugene Manson	<i>Amesbury</i>
Garry, John Joseph	<i>Methuen</i>
Gechgass, Gershon	<i>Chelsea</i>
Gervais, Harriet Marion	<i>Westboro</i>
Giles, William Benard	<i>W. Somerville</i>
Gilman, Samuel Thomas	<i>Peabody</i>
Godvin, Bernard Aloysius	<i>Jamaica Plain</i>
Greenblatt, Hattie	<i>Providence, R. I.</i>
Gwynne, Samuel Carlton	<i>Melrose Highlands</i>
Healey, Bernard Charles	<i>Boston</i>
Howard, Irma Ruth	<i>Boston</i>
Jakmauh, Paul John	<i>S. Boston</i>

Johnson, Gertrude Christine	<i>S. Manchester, Conn.</i>
Jones, Guy Walter Stanley	<i>Waltham</i>
Jordan, Harmon Paul Buffum	<i>Holliston</i>
Judd, Ernest Hart	<i>W. Hartford, Conn.</i>
Keely, Mary Agnes	<i>Nashua, N. H.</i>
Kelley, Lawrence Kendall	<i>Haverhill</i>
Kennington, Henry Carter	<i>Boston</i>
Kiley, Daniel Joseph, Jr.	<i>Everett</i>
King, Drue	<i>Boston</i>
Kinsella, Michael Allen	<i>Auburn, N. Y.</i>
Largay, Arthur Owen	<i>Bangor, Me.</i>
Lennon, John Marcus H.	<i>Jamaica Plain</i>
Locke, Harry Leslie Franklin	<i>Hudson</i>
MacNaughton, Cordelia Isabella	<i>Boston</i>
MacQueen, James Allen	<i>Boston</i>
Madden, John Joseph, Jr.	<i>Waltham</i>
Marcus, Jacob	<i>Boston</i>
McGann, Pierce Powers	<i>Somerville</i>
McWeeny, Bernadette Marie	<i>Arlington</i>
Middleton, Willis Pearl	<i>Quincy</i>
Monaghan, Mary Frances	<i>Waltham</i>
Murphy, Daniel Francis	<i>Waltham</i>
Mysel, Philip	<i>Roxbury</i>
O'Brien, Edward Joseph, Jr.	<i>E. Boston</i>
O'Brien, Frederick William	<i>Roxbury</i>
O'Malley, Charles Francis	<i>Clinton</i>
Powers, James Joseph	<i>Manchester, N. H.</i>
Sacowitz, Henry Edward	<i>S. Boston</i>
Schön, Edward	<i>Roxbury</i>
Shapleigh, Harry Lee	<i>Somerville</i>
Sheridan, Philip Edward Anthony, A.B., 1908	<i>S. Boston</i>
Simonds, Frederick Artemas	<i>Wakefield</i>
Spinney, Frederic Ira	<i>Boston</i>
Sproat, William Delano	<i>Boston</i>
Stamp, Floyd R.	<i>Alliance, Ohio</i>
Sweet, John Henry Throop, Jr.	<i>Hartford, Conn.</i>
Tobey, Henry Pratt	<i>Great Barrington</i>
Trachtenberg, Julius Caesar	<i>Boston</i>
Tully, George William	<i>Southbridge</i>
Turetzky, William Leo	<i>Dorchester</i>
Weatherbee, George Bradford	<i>Lee, Me.</i>
Wellington, Anna Colburn	<i>Boston</i>
Woodside, John Nelson	<i>Cambridge</i>

First Year

Allen, Arnold Noble	<i>Roslindale</i>
Allen, Harold Musgrave	<i>Boston</i>
Armitage, Henry George	<i>Haverhill</i>
Bagnall, Elmer Stanley	<i>Roslindale</i>
Balcom, Paul Parker	<i>Aylesford, N. S.</i>
Barron, Maurice Edward	<i>Cambridge</i>
Basch, William Eustis Russell	<i>Boston</i>
Bass, Harris	<i>Plymouth</i>
Baxter, Clarence Pennell	<i>Boston</i>
Bishop, William Atkins	<i>Somerville</i>
Blaisdell, Christopher Carroll	<i>E. Franklin, Me.</i>
Boylan, Francis Joseph	<i>Boston</i>
Boynton, Harry Deering	<i>Cornish, Me.</i>
Brady, Cecil Norbert	<i>Boston</i>
Bresnihan, Frank Nesdel	<i>Cambridge</i>
Brosius, Otto Tiemann	<i>Belleville, Ill.</i>
Brown, Alfred Whittemore	<i>Quincy</i>
Browne, William Edward	<i>Brockton</i>
Buckle, Wesley Havey	<i>Hartford, Conn.</i>
Burke, John Henry	<i>Rockland</i>
Cabeceiras, Henry Joseph	<i>Somerville</i>
Caldicott, Francis Stephen	<i>Milford</i>
Chamberlin, Harold Augustus	<i>N. Abington</i>
Chase, James Milton	<i>Hyde Park</i>
Chronquest, Alfred Peter	<i>Boston</i>
Clark, William Francis	<i>Peabody</i>
Clarke, Mary Ella	<i>Ward Hill</i>
Commings, Edward Francis	<i>Somerville</i>
Comstock, Fred Walter	<i>New Haven, Conn.</i>
Connor, Harold James	<i>Pawtucket, R. I.</i>
Costello, James Francis	<i>Wollaston</i>
Couillard, Charles Anthony	<i>Manchaug</i>
Cowles, Dwight	<i>Beverly</i>
Cox, Oscar Francis, Jr.	<i>Dorchester</i>
Crowley, Jeremiah Joseph	<i>N. Abington</i>
Cullen, Charles Andrew	<i>Hyde Park</i>
Currin, Francis Walter	<i>Peabody</i>
Curry, William Joseph	<i>Charlestown</i>
Daly, John	<i>Lowell</i>
Deacy, John Joseph	<i>Lawrence</i>
Devaney, Luke Terrence	<i>Reading</i>
Devlin, John Augustine, Jr.	<i>Brighton</i>

Dickens, Willard Lee	<i>Camden, Me.</i>
Dickson, Ellsworth Joseph Murray	<i>W. Somerville</i>
Dolahar, John Edward	<i>Boston</i>
Driscoll, Robert Ellsworth	<i>Cambridge</i>
Drummond, Oliver Murray	<i>Providence, R. I.</i>
DuVally, James Francis	<i>Boston</i>
Eames, Helen Tibbetts, A.B. (Mt. Holyoke)	<i>S. Framingham</i>
Earl, Theodore Alexander	<i>Boston</i>
Elkin, Samuel Nathaniel	<i>Boston</i>
Felch, George Alfred	<i>Ayer</i>
Flynn, John Henry	<i>Salem</i>
Flynn, Joseph Francis Xavier	<i>Lowell</i>
Flynn, Thomas Stephen	<i>Woonsocket, R. I.</i>
Friedman, Benjamin	<i>Boston</i>
Friedman, Eli	<i>Boston</i>
Gallant, Alfred Edward, A.B. (St. Ann's)	<i>Waltham</i>
Garrett, William Leo, Ph.C. (R. I. Coll. Ph.)	<i>Providence, R. I.</i>
Gerety, George Joseph	<i>Plymouth</i>
Gilmore, Louis Daniel	<i>Exeter, N. H.</i>
Ginn, James Richard	<i>W. Somerville</i>
Goding, Arthur Nathaniel	<i>E. Boston</i>
Goetschius, Percy Berry	<i>New York, N. Y.</i>
Goldberg, Harry Joseph	<i>Boston</i>
Goldman, Max	<i>Boston</i>
Gooding, John Harold	<i>Boston</i>
Grogan, Margaret Victorine	<i>W. Swanzey, N. H.</i>
Gunter, Fred Clarke	<i>Somerville</i>
Guthrie, Andrew Doherty	<i>Roxbury</i>
Haley, William Thomas	<i>Marblehead</i>
Hall, Reuben Stanford	<i>Jamaica, B. W. I.</i>
Harding, Dana Edward	<i>Somerville</i>
Hartnett, John Henry	<i>Worcester</i>
Hassman, David Morris	<i>Reading, Penn.</i>
PHARM.D. (Phila. Coll. Ph.)	
Heap, Richard Dunham	<i>Fall River</i>
Howland, George William	<i>Roslindale</i>
Hynes, Fred Henry	<i>New Haven, Conn.</i>
Jennings, John Greenwood	<i>Jewett City, Conn.</i>
Jensen, William Christian	<i>Worcester</i>
Johnson, Cecil Haven	<i>Winthrop</i>
Johnson, Guy Lloyd	<i>Littleton, N. H.</i>
Jones, Fred Durgin	<i>Fall River</i>
Kaplan, Morris	<i>Boston</i>
Keating, William Bernard	<i>Natick</i>

Kelleher, Simon Bartholomew	<i>Cambridge</i>
Kemp, Lysander Schaffer	<i>N. Cambridge</i>
Kenney, John Francis	<i>New Bedford</i>
Kenworthy, Marion Edwena	<i>Middletown, Conn.</i>
Kewer, Leo Thomas	<i>Waverley</i>
Knowlton, George Harry	<i>Manchester, N. H.</i>

PH.G. (Phila. Coll. Ph.)

Knowlton, John Cleaves,	<i>Chelsea</i>
Kubovec, Anna Frances	<i>Turners Falls</i>
Lane, John Andrew	<i>Cambridge</i>
Leary, Alfred James	<i>Gilbertville</i>
Ledoux, Arthur Joseph	<i>Fall River</i>
Lemay, Alfred Mederic	<i>Marlboro</i>
Levek, Joseph	<i>Lawrence</i>
Levy, Benjamin George	<i>Medway</i>
Levy, Maurice Marshall	<i>Somerville</i>
Logiodice, Leonard Francis	<i>Tyler City, Conn.</i>
Lyle, Eveline Burton, A.B. (Mt. Holyoke)	<i>Gloucester</i>
MacKenzie, James Alexander	<i>Louisville, N. S.</i>
MacLeod, Emily Clark	<i>S. Boston</i>
Macomber, Clarence Alden	<i>Pittsfield, Me.</i>
Madden, John James	<i>Charlestown</i>
Margolis, Barney Joseph	<i>New Bedford</i>
Marr, David Finlay	<i>Westerly, R. I.</i>
Marr, Robert McClellan	<i>Westerly, R. I.</i>
Marsh, Harold Edward	<i>Quincy</i>
Martin, Harold Winthrop	<i>Roxbury</i>
Martin, William Richard	<i>Spencer</i>
McCoart, Richard Felix, Jr.	<i>Rumford, R. I.</i>
McFee, Raymond Frank	<i>Woonsocket, R. I.</i>
McGill, Chester Francis	<i>Marlboro</i>
McLaughlin, Arthur Otis	<i>Haverhill</i>
McLean, Ernest Alexander	<i>Melrose</i>
McNeil, William	<i>E. Boston</i>
McPherson, Sidney Horace	<i>Roxbury</i>
Merrill, Everett Albert	<i>Bridgton, Me.</i>
Metcalf, Richard	<i>Winthrop</i>
Millett, Frank Alburtus	<i>Swampscott</i>
Miniter, Francis Gabriel	<i>Medford</i>
Moncrieff, William Armitage	<i>New Bedford</i>
Moore, Mary Teresa Veronica	<i>Roxbury</i>
Mott, George Ernest	<i>Malden</i>
Nason, Carleton Emerson	<i>Salmon Falls, N. H.</i>
Neptune, Frederick Willard	<i>Cambridge</i>

O'Reilly, Francis Augustine	<i>Lawrence</i>
Osborn, Stanley Hart	<i>Peabody</i>
Paglia, Jeremiah James	<i>Boston</i>
Papas, Prodromos Nicholas, A.B. (Anatolia) .	<i>Boston</i>
Partington, Cyrus Brown	<i>Fall River</i>
Pavrides, Socrates Yakovos	<i>Boston</i>
Pavlo, Samuel George	<i>Boston</i>
Perkins, Edward Anderson	<i>Natick</i>
Peters, Henry J.	<i>Chelsea</i>
Phaneuf, Louis Eusebe	<i>Ware</i>

PHARM.D. (Mass. Coll. Ph.)

Pigott, Arthur	<i>Winthrop</i>
Pugsley, Charles Bernard	<i>Jamaica Plain</i>
Rabinovitz, Bernard	<i>Malden</i>
Record, Harold Roland	<i>E. Braintree</i>
Reed, Beatrice Alma	<i>S. Boston</i>
Regan, James Joseph	<i>S. Boston</i>
Robert, Marta Beatriz	<i>Mayaguez, Porto Rico</i>
Robins, Samuel	<i>Boston</i>
Robinson, Horace Eddy	<i>Bradford</i>
Roderick, Charles Elvin	<i>Taunton</i>
Rodriguez, Enrique	<i>Barranguilla, Colombia</i>
Ruel, Joseph Adjutor	<i>Boston</i>
Ryder, Walter Irenaeus	<i>S. Boston</i>
Sabine, Harold John	<i>Brockton</i>
Segall, Samuel Kelman	<i>Somerville</i>
Sewall, Edgar Floyd	<i>Greenland, N. H.</i>
Sharood, Howard Cushman	<i>Brockton</i>
Shields, Luke Edward	<i>Boston</i>
Shoub, Clara Francis	<i>Boston</i>
Simmons, Ralph Hayward	<i>Brockton</i>
Stone, Chester Hannibal	<i>Melrose</i>
Sullivan, Daniel Aloysius	<i>Lawrence</i>
Sullivan, Frank Cornelius	<i>Lawrence</i>
Swig, Israel	<i>Taunton</i>
Sylvia, Savero Pacheco	<i>New Bedford</i>
Thoennes, Matthew Nicholas	<i>Dorchester</i>
Thomas, Everett Onslow	<i>Boston</i>
Varrell, William Walton	<i>York Harbor, Me.</i>
Ventrone, Anthony Caesar	<i>Providence, R. I.</i>

PH.C. (R. I. Coll. Ph.)

Villers, Ernest Albert de	<i>Oxford</i>
Wainshel, Perez William	<i>Lynn</i>
Weber, Willis Fletcher	<i>S. Wales, N. Y.</i>

Wheet, Harry Ray	<i>Somerville</i>
Wilson, Charles Henry	<i>Chelsea</i>
Wood, Harvey Nichol	<i>Plymouth</i>
Wright, Arthur Clarendon	<i>W. Somerville</i>
Young, Wallace Edward	<i>Taunton</i>

Special Students

Centervall, Ivan Alexis Teofil, D.M.D. (1904)	<i>Roxbury</i>
Fraim, Irving William	<i>Waltham</i>
Knowles, Edward Augustine	<i>Boston</i>
Mulvanity, John Joseph	<i>Nashua, N. H.</i>

Post-Graduate

LeBlanc, William, M.D.	<i>Somerville</i>
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Dental School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Third Year

Bagnall, Melville Crawford	<i>Roslindale</i>
Baker, Edwin Carlisle	<i>Roslindale</i>
Becker, Frederick William	<i>Hyde Park</i>
Bliss, Orville Thayer	<i>Providence, R. I.</i>
Brown, Ernest Linwood	<i>Norway, Me.</i>
Burr, Walter Eugene	<i>Worthington</i>
Clegg, William Joseph	<i>Providence, R. I.</i>
Coyne, Francis Joseph	<i>Marlboro</i>
Cserie, Fred Rich	<i>Worcester</i>
Dickinson, George Herbert	<i>Meriden, Conn.</i>
Dingwell, Arthur Roy	<i>E. Boston</i>
Djinivis, Paul Boghos	<i>Boston</i>
Donovan, Timothy Joseph	<i>Lawrence</i>
Doubleday, Clark Otto	<i>Springfield</i>
Dunlop, James Alexander	<i>Worcester</i>
Dyon, Oscar Omer	<i>N. Attleboro</i>
Eldridge, Melville Leroy	<i>Wareham</i>
Flood, Charles Augustine	<i>Lynn</i>
Gilbert, John Royden	<i>Waltham</i>
Given, Carolus Roy	<i>Wollaston</i>
Grant, Frederick Edward	<i>E. Dedham</i>
Haffner, Louis Alfred	<i>Lawrence</i>
Henderson, Francis Randolph	<i>Everett</i>
Hennebery, Philip Augustine	<i>Morell, P. E. I.</i>
Hoy, Frank	<i>Fall River</i>
Jellison, Frederick Green	<i>Rowley</i>
Keith, James Harold	<i>Bridgewater</i>
Keith, William Fownes	<i>Havelock, N. B.</i>
Kelly, Charles Patrick	<i>Cambridge</i>
Kneeland, John James	<i>Worcester</i>
McDonnell, Michael Joseph	<i>Holyoke</i>
Morse, Edwin John	<i>Roxbury</i>
Palmer, Raymond Chester	<i>Maynard</i>
Petzoldt, René Lucien	<i>Paramaribo, S. America</i>
Plaisted, Harold Charles	<i>Concord, N. H.</i>

Regan, Francis White	<i>Boston</i>
Rosenthal, Max	<i>Roxbury</i>
Schlansky, Israel Myer	<i>Woonsocket, R. I.</i>
Shay, Norbert Branley	<i>S. Braintree</i>
Small, Wilbert Merrill	<i>Milbridge, Me.</i>
Smith, Ernest Joseph	<i>Ipswich</i>
Staples, Vincent Joseph	<i>Pittsfield</i>
Steadman, Frederick Weeks	<i>Brooklyn, N. Y.</i>
Sullivan, Anastasia Louise	<i>Cambridge</i>
Thomson, John Nathaniel	<i>Methuen</i>
Walsh, Jeffrey James	<i>Fall River</i>
Wessler, Myron	<i>Springfield</i>

Second Year

Austin, LeRoy Sharman	<i>Swampscott</i>
Barton, Peter Hogan	<i>W. Somerville</i>
Billings, Charles Harper	<i>Canton</i>
Bonney, Albion Paris	<i>Quincy</i>
Branagan, George Henry	<i>Natick</i>
Brown, Guy Edward	<i>W. Somerville</i>
Brown, John Bernard	<i>Grand River, P. E. I.</i>
Brown, Maurice Vivian, A.B. (Bates)	<i>Norway, Me.</i>
Bryant, Myron Eldridge	<i>Machias, Me.</i>
Burgess, Ralph Arthur	<i>Woburn</i>
Burke, Eugene Edward	<i>Brockton</i>
Burnham, John Fletcher	<i>Gloucester</i>
Bursten, Bernhardt Bertwell	<i>Revere</i>
Butterfield, Ross Hunt	<i>N. Troy, Vt.</i>
Carlson, Torsten Axel	<i>Dorchester</i>
Carr, George Philip	<i>Grafton</i>
Cassidy, James Owen	<i>Boston</i>
Chessman, John Wesley	<i>Abington</i>
Clark, John Locke	<i>Valley Falls, R. I.</i>
Curtis, Harold Francis	<i>Quincy</i>
Danforth, George Arthur	<i>Manchester, N. H.</i>
Dean, Frank Henry	<i>Worcester</i>
deJong, Jacque	<i>S. Boston</i>
Denning, William Vincent	<i>S. Boston</i>
Derbyshire, Raymond Ashton	<i>Lawrence</i>
Devlin, James Edward	<i>Brighton</i>
Dorr, Russell Ellis	<i>Keen's Mills, Me.</i>
Dupuis, Hector Mederic	<i>Worcester</i>
Estabrook, Philip Dewitt	<i>Presque Isle, Me.</i>

Faulkner, Ralph Lindsay	<i>N. Grafton</i>
Fleming, Timothy Michael	<i>Lawrence</i>
Foley, Maurice Joseph	<i>Milford</i>
Foster, Robert Chesley	<i>Dorchester</i>
Gammon, Fred Battles	<i>Brockton</i>
Gately, Edward John	<i>Marlboro</i>
Gibbons, John Joseph	<i>New Bedford</i>
Golden, John Francis	<i>Natick</i>
Grant, Percy James	<i>Lynn</i>
Graumann, Ernest Gustave	<i>Jamaica Plain</i>
Griffin, Samuel Frederic	<i>Portsmouth, N. H.</i>
Haines, J. Herman	<i>Lynn</i>
Hamilton, Samuel Worcester Fuller	<i>Newport, Vt.</i>
Hartigan, Thomas Joseph	<i>Providence, R. I.</i>
Herlihy, David Joseph	<i>Fitchburg</i>
Hurley, William Patrick	<i>S. Boston</i>
Jackson, Gordon Francis	<i>Dorchester</i>
Jenkins, Clarence Edmund	<i>E. Sullivan, N. H.</i>
Jones, Louis Franklin	<i>Somerville</i>
Kaston, Louis	<i>Boston</i>
Kenny, James Francis	<i>Worcester</i>
Kenswil, René	<i>Utrecht, Holland</i>
King, Edward Francis, Jr.	<i>E. Dedham</i>
Knight, Joseph King, Jr., A.B. (Dartmouth)	<i>Hyde Park</i>
Laffin, Clarence Byron	<i>Portland, Me.</i>
Lambert, Henry Keville	<i>Dorchester</i>
Leonard, John Henry	<i>Brockton</i>
Lockhart, Arthur Alexander	<i>Summerside, P. E. I.</i>
Logue, Owen Joseph	<i>Woburn</i>
Lynch, Edward Mark	<i>Lawrence</i>
MacSween, Frederick William	<i>Summerside, P. E. I.</i>
Manning, Charles Henry	<i>Rochester, N. H.</i>
McKenna, James Joseph	<i>New Bedford</i>
McNamara, William Francis	<i>Clinton</i>
Meade, John James	<i>Charlestown</i>
Merrill, Ernest Samuel	<i>Wollaston</i>
Moody, William Ladd	<i>Harwich</i>
Nader, George	<i>Mahalla, Egypt</i>
Nies, Martin Edward, Jr.	<i>Swampscott</i>
Noonan, George Francis	<i>Roxbury</i>
Norton, Richard Henry, Jr.	<i>Somerville</i>
O'Connor, Timothy Leo	<i>Worcester</i>
Ogden, James Sherman	<i>Northampton</i>

Osgood, Rose Charlotte	<i>Boston</i>
Parker, Harrison Lindsay	<i>Winchester</i>
Perkins, Fred Lester	<i>Franklin, N. H.</i>
Pinsky, David	<i>Medway</i>
Power, Thomas Edward	<i>Westfield</i>
Price, Harris Wayland	<i>Tolland, Conn. .</i>
Qualters, Martin Wilfred	<i>Ashuelot, N. H.</i>
Roberts, Jacob Frederick	<i>Medford</i>
Rockett, Cecilia Marie	<i>Dorchester</i>
Roddy, Charles Augustine	<i>Lawrence</i>
Ryan, Edmund Clement	<i>Pawtucket, R. I.</i>
Ryan, James Edward	<i>Oakdale</i>
Sanborn, John Stevens	<i>Woburn</i>
Soulliere, Joseph Hector	<i>Worcester</i>
Spear, Tyler Whitmore	<i>Rockland, Me.</i>
Springall, George Allen	<i>Malden</i>
Stack, Thomas Paul	<i>Hyde Park</i>
Sullivan, Frank Denis	<i>Somersworth, N. H.</i>
Tannebring, William Charles	<i>Three Rivers</i>
Tierney, James Francis	<i>Dorchester</i>
Wiggins, Leo Chester	<i>Holbrook</i>

First Year

Allen, Frederick Carroll	<i>New Bedford</i>
Allen, Henry Roy	<i>Lynn</i>
Anthony, William Wilton	<i>Wakefield</i>
Askin, John Leo	<i>Dorchester</i>
Bacon, Lester Edward	<i>Brockton</i>
Barrett, Clifton Addison	<i>Boston</i>
Beazley, Ernest Valentine	<i>Providence, R. I.</i>
Begley, Patrick Joseph	<i>Lowell</i>
Betts, Leo Bertram	<i>Ellsworth Falls, Me.</i>
Bickell, Arthur Guy	<i>Andover</i>
Bohaker, Karl Aubrey	<i>Somerville</i>
Briggs, Carl Skillings	<i>S. Paris, Me.</i>
Brown, Thomas Dalton, PH.B. (Brown)	<i>Salem</i>
Bruce, Frank Bradshaw	<i>Shelburne, N. S.</i>
Burke, Robert Thomas	<i>Rutland</i>
Burt, Percy Tylor	<i>Brockton</i>
Cadorete, Louis Henry	<i>Turners Falls</i>
Cameron, Hartwell Dyer	<i>Boston</i>
Canarie, Martin Charles	<i>Haverhill</i>
Carpenter, Victor Howard	<i>Foxboro</i>

Carter, Walter James	<i>Pembroke, Me.</i>
Casey, Thomas Frank	<i>Somerville</i>
Cassidy, Gregory Philip	<i>Houlton, Me.</i>
Christman, George	<i>Cambridge</i>
Cleaves, Chester Evander	<i>Montpelier, Vt.</i>
Corry, Robert Joseph	<i>Woburn</i>
Cosgrove, Michael Edward	<i>Worcester</i>
Crowley, Daniel Joseph	<i>Charlestown</i>
Dailey, James William	<i>Cambridge</i>
Dickenson, Henry David	<i>Jamaica, B. W. I.</i>
Dixon, Mildred Gordon Marjory	<i>Worcester</i>
Doherty, Richard Daniel	<i>Amesbury</i>
Donovan, William Dacey	<i>Wakefield</i>
Dunne, Michael Joseph	<i>Rockland</i>
Ekdahl, Adolph Gustavus	<i>Nashua, N. H.</i>
Ekdahl, Harold Gustavus	<i>Nashua, N. H.</i>
Estes, William Augustus	<i>New Bedford</i>
Fair, George Francis	<i>Natick</i>
Fanning, Michael Francis	<i>Gilbertville</i>
Feeley, John Henry	<i>Franklin</i>
Feinstein, Max	<i>Chelsea</i>
Finkelstein, Joseph	<i>Roxbury</i>
Fitzgerald, Richard Joseph	<i>Montpelier, Vt.</i>
Fitzpatrick, John Johnson	<i>Dorchester</i>
Foley, George Arthur	<i>Winchester</i>
Fleming, Lewis James	<i>Fairville, N. B.</i>
Fogg, Wallace Franklin	<i>Fairfield, Me.</i>
Gifford, Harris Powell	<i>Pawtucket, R. I.</i>
Grady, Anthony Bonaventure	<i>Clinton</i>
Greene, Harry Augustus	<i>Cambridge</i>
Griffin, William Henry, Jr.	<i>S. Boston</i>
Hammond, Harry Smith	<i>Burlington, Vt.</i>
Hart, Arthur John	<i>Everett</i>
Hartnett, Patrick Sarsfield	<i>Boston</i>
Harvey, Walter Francis	<i>Everett</i>
Haskell, Clarence Murray	<i>Newton Highlands</i>
Haskell, Edmund Gallop	<i>Beverly</i>
Hayes, Arthur Warren	<i>Lynn</i>
Hayes, George Thomas	<i>Worcester</i>
Hildreth, Leon William	<i>Arlington</i>
Hobart, Paul Crawford	<i>Somersworth, N. H.</i>
Huntoon, Raymond Philip	<i>Natick</i>
Jantzen, Joseph William	<i>Lowell</i>

Kearney, John Joseph, PH.B. (Holy Cross)	<i>Worcester</i>
Kelley, John Joseph	<i>Worcester</i>
Kendregan, Benjamin Joseph	<i>Rockland</i>
Kinley, Edward Albert, Jr.	<i>Cliftondale</i>
Kline, Louis Frederick	<i>Lawrence</i>
Kramer, George	<i>Boston</i>
Ladieu, Peter Eugene	<i>Newport, N. H.</i>
Ladrigan, Daniel Vincent	<i>Boston</i>
Landers, Michael Augustine	<i>Lawrence</i>
Larkin, Richard Booth	<i>Medford</i>
Leary, Timothy Francis	<i>Springfield</i>
Leftovith, Henry Hyman	<i>Boston</i>
Levenson, Meyer	<i>Dorchester</i>
Lewis, Roland Henry	<i>E. Providence, R. I.</i>
Lockwood, Arthur Dodge	<i>Merrimac</i>
Long, Daniel Simon	<i>Boston</i>
Luce, Carlton Lee	<i>N. New Portland, Me.</i>
MacLeod, Harry Bradford	<i>Barre, Vt.</i>
March, Richard Conrad	<i>Bridgton, Me.</i>
Martel, Chester Henry	<i>Lowell</i>
Mason, Edward Alexander	<i>S. Boston</i>
McGauley, Walter Gardner	<i>Worcester</i>
McGunagle, George Edmund	<i>Pawtucket, R. I.</i>
McMahon, Henry John	<i>Woburn</i>
McVey, Francis Frederick	<i>Boston</i>
Melincoff, Abram Edward	<i>Lawrence</i>
Messer, William Reuben	<i>Elbridge, N. Y.</i>
Minns, Frank Raymond	<i>N. Brookfield</i>
Monahan, George Augustus	<i>Houlton, Me.</i>
Morin, Joseph Emile	<i>Lawrence</i>
Moulton, Carroll Parsons	<i>Ossipee, N. H.</i>
Mulcahy, Richard James, A.B. (Villanova)	<i>N. Cohasset</i>
Mulrey, Beatrice Eulalia	<i>Cambridge</i>
Nalchajian, John	<i>Chelsea</i>
Nash, Alfred Warren	<i>Bradford</i>
Norton, George Thomas	<i>Brandon, Vt.</i>
O'Connor, Edward Michael	<i>Winchester</i>
O'Connor, William James	<i>Spencer</i>
O'Donnell, Roger Joseph	<i>S. Boston</i>
Olin, Louis	<i>Somerville</i>
Ozon, Wallace Walter	<i>Boston</i>
Peavey, Harry Clothey	<i>Bangor, Me.</i>
Pierce, Michael Charles	<i>Bellows Falls, Vt.</i>

Plaisted, Leslie Hunkin	<i>Concord, N. H.</i>
Plummer, Gordon Leslie	<i>Cambridge</i>
Quinlan, Francis Mark	<i>Dorchester</i>
Randall, Howard Bowen	<i>Wrentham</i>
Rounds, Samuel Dean	<i>Reading</i>
Ryder, Harry Clifford	<i>Boston</i>
Savage, Peter Joseph	<i>Whitinsville</i>
Sedgwick, Willard Eaton	<i>W. Springfield</i>
Shedd, Harold Woodbury	<i>Taunton</i>
Smith, Wilfred Benjamin	<i>Reading</i>
Spencer, Charles Shackford	<i>Washington, D. C.</i>
Stalker, Harry LeBaron	<i>Brockton</i>
Stearns, Hyman	<i>Boston</i>
Stevens, Dean Clayton	<i>Franconia, N. H.</i>
Taylor, William Dimon	<i>Norridgewock, Me.</i>
Tirk, Nathan Herbert	<i>Boston</i>
Traynor, William Bernard	<i>Biddeford, Me.</i>
Wagner, John Leonard	<i>Maynard</i>
Wass, Alfred Seldon	<i>Prospect Harbor, Me.</i>
Webster, Karl Smith	<i>Orleans, Vt.</i>
Whitham, Edward Henry	<i>Providence, R. I.</i>
Yates, Thomas Henry	<i>Taunton</i>

Special Students

Badgley, Louis Albert	<i>Portland, Oregon</i>
Baker, Ralph Vincent	<i>Marshfield</i>
Delano, Frank Sparrow	<i>Worcester</i>
Denvir, William Edward, Jr.	<i>Somerville</i>
Dyon, Armond Henry Oswell	<i>N. Attleboro</i>
Fraser, John Callistus	<i>Dorchester</i>
Goldstein, Edward Arthur	<i>Malden</i>
Hamilton, Arthur Stuart	<i>Needham</i>
House, Clarence Ellsworth	<i>Dorchester</i>
McGourty, Garrett Thomas	<i>Boston</i>

SUMMARY

Trustees	29
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CORPS OF INSTRUCTION

Emeritus	3
President and Professors	54
Associate Professor	1
Assistant Professors	16
Lecturers	3
Instructors	83
Demonstrator	1
Assistant Demonstrators	9
Assistants	36
Laboratory Assistants	25
Total engaged in work of instruction	— 231
Other Officers, not previously counted	23

STUDENTS

GRADUATE SCHOOL	10
SCHOOL OF LIBERAL ARTS:	
Senior	28
Junior	34
Sophomore	34
Freshman	68
Special	13—177
ENGINEERING SCHOOL:	
Senior	47
Junior	52
Sophomore	41
Freshman	83—223
CRANE THEOLOGICAL SCHOOL	17
MEDICAL SCHOOL:	
Fourth Year	81
Third Year	68
Second Year	98
First Year	170
Special	4
Post-Graduate	1—422
DENTAL SCHOOL:	
Third Year	47
Second Year	93
First Year	128
Special	10—278
BROMFIELD-PEARSON SCHOOL	8
Total registration of students	1135
Names appearing twice	7
Total number of students	1128

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Annual Report of the Treasurer

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Catalogue of the Dental School

Announcement of the Engineering School

Announcement of the School of Liberal Arts

Register of Officers and Graduates





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